

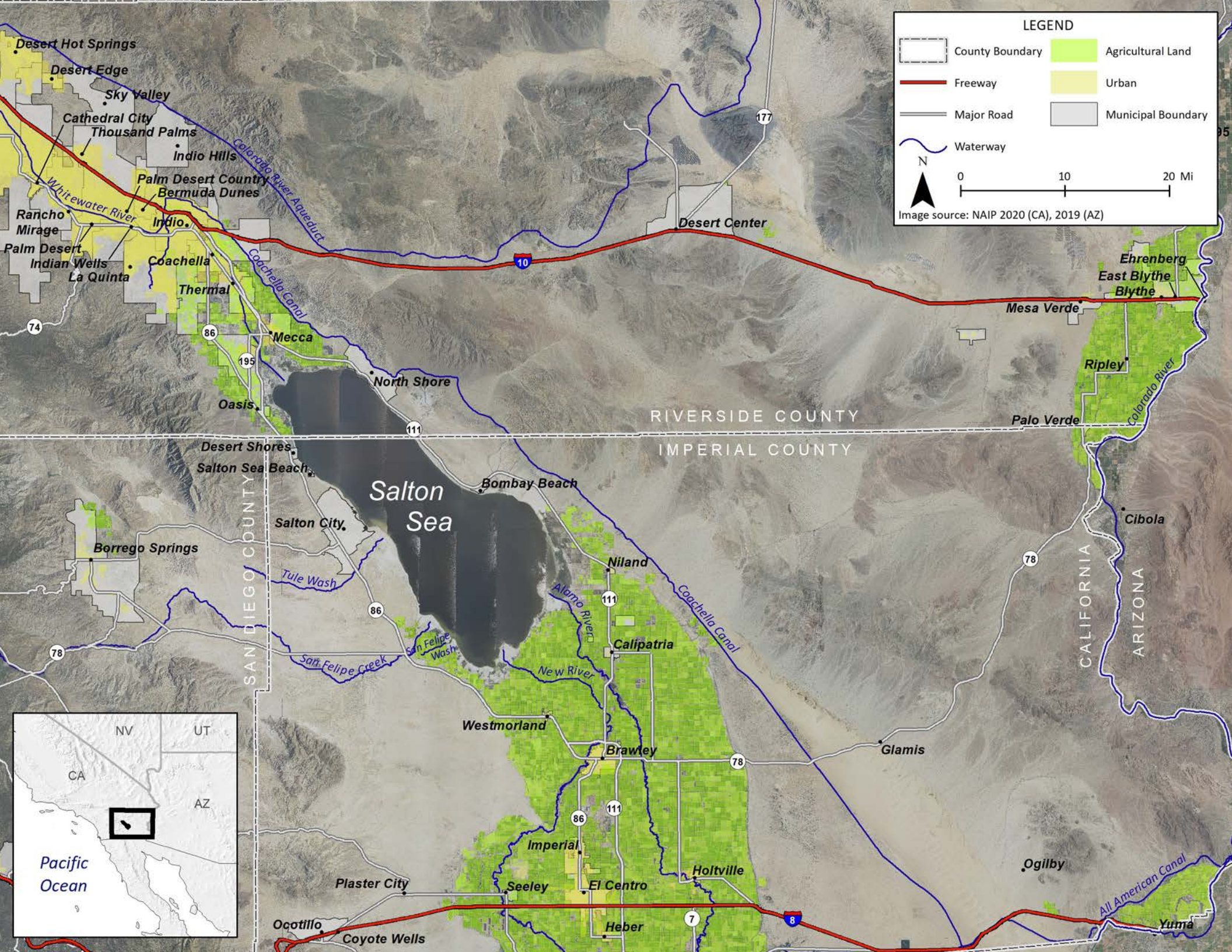


CALIFORNIA NATURAL RESOURCES AGENCY

Annual Report on the Salton Sea Management Program



March 2023



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March 2023

Prepared for:



State Water Resources Control Board
1001 I Street
Sacramento, CA 95814



Prepared in compliance with Order WR 2017-0134

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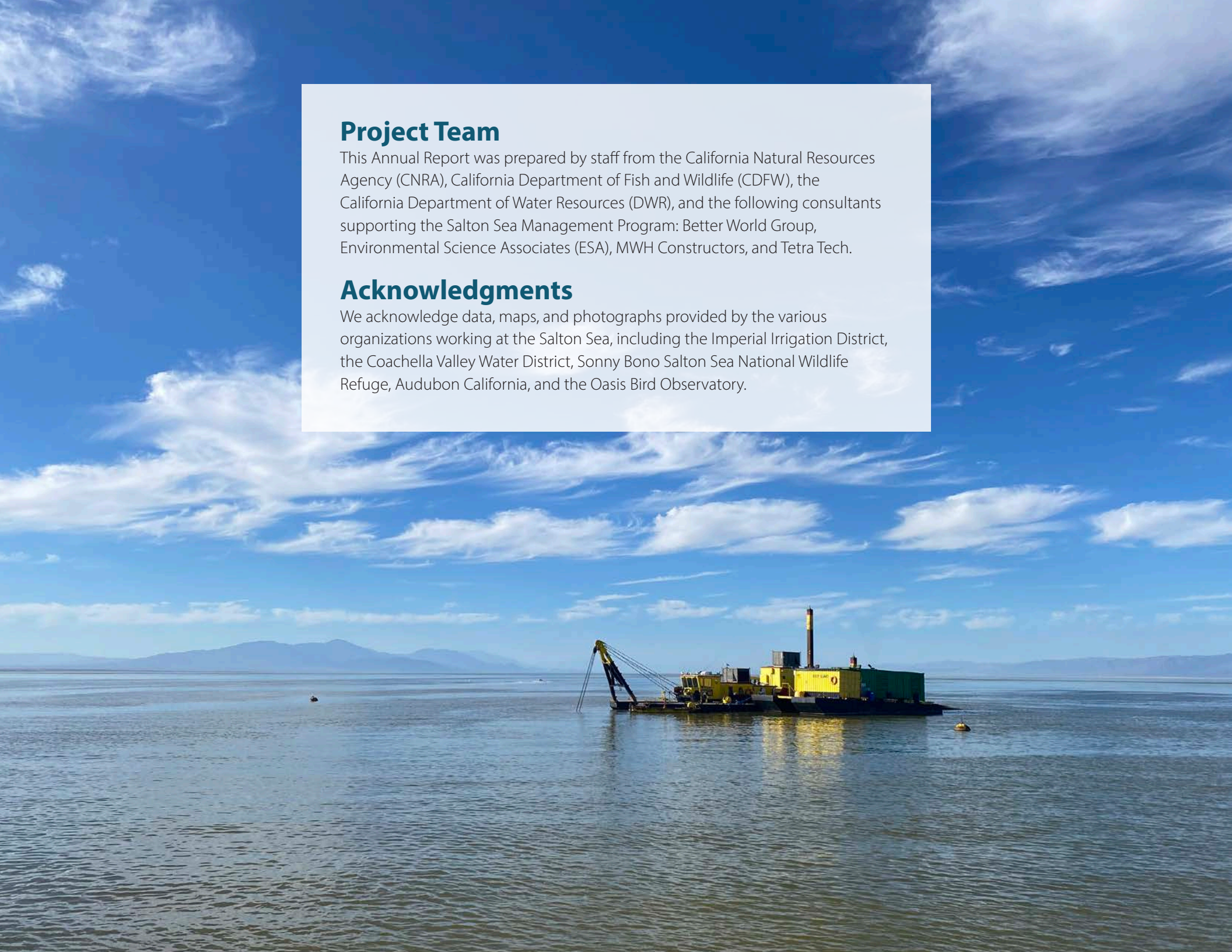
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Project Team

This Annual Report was prepared by staff from the California Natural Resources Agency (CNRA), California Department of Fish and Wildlife (CDFW), the California Department of Water Resources (DWR), and the following consultants supporting the Salton Sea Management Program: Better World Group, Environmental Science Associates (ESA), MWH Constructors, and Tetra Tech.

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Executive Summary

2022 was a year of visible progress and momentum for the Salton Sea Management Program (SSMP) and partners. The first large-scale restoration project in the Sea's history achieved major construction milestones, while community-oriented projects and vegetation enhancement made headway around the Sea in collaboration with state, federal and local entities.



The SSMP also took key steps toward developing land-access templates and a streamlined permitting process to enable more timely delivery of projects. Community outreach and engagement remained a priority throughout 2022, with strong involvement from the Community Engagement Committee and multiple opportunities for public dialog and input to help shape project planning.

In addition to working to deliver projects as part of the **SSMP's Phase 1: 10-Year Plan**, the Team issued a draft **Long-Range Plan** (LRP) identifying concepts for long-term restoration of the Sea beyond the 2028 horizon of the 10-Year Plan. Developed with support from Tribal leadership, community-based organizations, and state, local and federal agencies, the draft plan aims to protect air quality, water quality and wildlife habitat while reducing health and environmental consequences anticipated from the long-term recession of the Salton Sea.

The SSMP also joined with U.S. Army Corps of Engineers (Corps) Los Angeles District and the Salton Sea Authority (SSA) to launch a federal feasibility study to identify and recommend projects and actions for the long-term restoration of the Sea.

Near- and long-term projects at the Sea took on added urgency in 2022 as extreme drought conditions on the Colorado River system prompted calls

for California and the other six states that rely on Colorado River supplies to immediately reduce water use to help stabilize reservoir storage at Lake Mead and Lake Powell. The Colorado River is the sole source of water for the Imperial Valley and an important source for the Coachella Valley. Since the Salton Sea receives the majority of its inflow indirectly from the Colorado River by way of drainage from agricultural fields, reductions in water use would be expected to reduce inflows to the Sea and result in additional acres of exposed lakebed.

Given this urgency, in December 2022 the California Natural Resources Agency (CNRA) worked with Imperial Irrigation District (IID), Coachella Valley Water District (CVWD), and the U.S. Department of the Interior to establish the Commitment to Support Salton Sea Management Related to Water Conservation in the Lower Colorado River Basin Agreement to accelerate dust suppression and aquatic habitat projects at the Sea. The Salton Sea Commitment Agreement secures \$250 million in federal funding commitments and other actions to expedite projects, contingent on near-term water conservation in the region, in order to ensure near-term voluntary efforts to reduce Colorado River use do not create adverse impacts for communities around the Sea.

The Newsom Administration remains focused on implementing projects that benefit communities and wildlife that depend on the Sea and developing a pathway for a sustainable

future Sea. Led by CNRA in collaboration with the California Department of Water Resources (DWR) and the California Department of Fish and Wildlife (CDFW), the SSMP is working to meet the following goals:

- Drive implementation of the SSMP's Phase I: 10-Year Plan, which aims to improve conditions around the Sea by constructing 30,000 acres of projects to suppress dust from exposed lakebed and create habitat for fish and birds;
- Work with federal partners and the SSA to develop and complete the *Imperial Streams Salton Sea and Tributaries Feasibility Study* to identify actions for long-term restoration of the Sea;
- Continue to strengthen partnerships with local governments and non-profits, Tribal governments, and communities to deliver projects and institutionalize inclusive community engagement within and across SSMP projects;
- Add capacity and expertise to the SSMP Team to enable the State to deliver projects on an expanded scale.

This report provides updates on the SSMP's activities in 2022 and planning for future projects, ongoing partnerships to help the SSMP meet its goals, community engagement, and next steps.

Project Delivery

Since CNRA's last report to the State Water Board in February 2022, the SSMP Team has made

active progress implementing habitat and dust suppression projects. This includes achieving major construction milestones on the **Species Conservation Habitat** (SCH) project; obtaining permits and beginning to implement three vegetation enhancement projects (Clubhouse, Tule Wash, and West Bombay Beach); securing land access agreements for the **North Lake Pilot Demonstration Project**; and advancing conceptual design of multiple habitat projects slated for construction in the next two years (including the Bombay Beach Wetland Project, the SCH Expansion Project, and the North Lake Project).

The 4,100-acre SCH project is the SSMP's first large-scale project and will create a network of ponds and wetlands to provide important fish and bird habitat while suppressing dust emissions to improve regional air quality as the Salton Sea continues to recede. The SCH project is the first of many projects the SSMP Team will implement as part of the Phase I: 10-Year Plan. It was chosen as the first large-scale project in part because water-balance models show that as the Sea recedes, the southern end of the Sea will experience some of the earliest lakebed exposure given its shallow depth.

In 2022, work completed on the SCH project included the following:

- Construction of all berms, nesting, and loafing islands and completion of major earth moving activities;
- Completion of the causeway connecting the saline pump station to the habitat ponds;

Construction of the labyrinth weir at the New River Diversion structure.



- Construction of interconnections between IID drains and the interceptor ditch;
- Significant progress on weir, roads, gates, electrical, and pump placement.

The New River Diversion Structure, designed to divert New River water to mix with Salton Sea water brought in by the saline pump station, was completed in February 2023 and marked an important milestone for the project.

The SSMP Team continued to develop vegetation enhancement projects on land owned by the U.S. Bureau of Reclamation (Reclamation). After securing state and federal permits as well as a

land access agreement, work began on three sites encompassing 1,700 acres administered by Reclamation: Clubhouse, Tule Wash, and West Bombay Beach.

In the initial phase of this work, the SSMP implemented dust suppression methods using surface roughening with large furrows and/or engineered roughness in the form of grass bale placement. These methods reduce surface wind speeds, and thus saltation and dust emission from exposed lakebed. By stabilizing the surface and reducing sand ablation, they also provide conditions for the survival of germinated seed and smaller plants. The primary benefits of these

approaches are to reduce wind abrasion on immature plants and bring immediate benefit to dust emissions and human health.

Subsequent phases will be focused on vegetation enhancement. Existing vegetation at the site will be enhanced by removing invasive species and will otherwise be minimally disturbed. Native seed mixes have been developed as well as nursery-grown plants. The seeds and plants were irrigated with drip irrigation to support germination and growth prior to plants becoming self-sustaining. Initially, water was supplied for drip irrigation by truck.

To provide a stable and local water supply that does not require transport over long distances, deep groundwater wells (up to 800 feet deep) are being developed within project areas.

The Salton Sea North Lake Pilot Demonstration Project is an approximately 160-acre lake located at the northern end of the Salton Sea in Riverside County, near the unincorporated community of North Shore. This work is being led by Riverside County with state funding obtained through Proposition 68. A contract for the design of this project was awarded to an external consultant by Riverside County in 2022 and design is underway.

Partnerships

Partnerships with the community, Tribal governments, interested parties, and local, state, and federal agencies are crucial to achieve the goals of the SSMP. The SSMP Team is working

with partners to pursue available funding sources; develop projects; share data; improve community engagement, outreach, and involvement; and streamline planning and approval processes. In addition, the Team is collaborating with partners to develop templates for land access, water availability, and public access opportunities and other elements key to the success of the SSMP. Based on these partnerships, the SSMP Team is bringing together multiple interested parties and regional leaders to support the work of the different committees advising the SSMP, notably the Community Engagement Committee, the Long-Range Planning Committee (LRPC), and the Science Committee.

California Native American Tribes (Tribes) have sovereign authority over their members and territory and a unique relationship with California's resources. Tribes and Tribal communities, as described in Executive Orders B10-11 and N15-19, have distinct cultural, spiritual, environmental, economic, and public health interests and valuable traditional cultural knowledge about California resources. Respect for Tribal sovereignty is reflected in the inclusion and engagement of Tribes as governmental entities. In March 2022, Torres Martinez Desert Cahuilla Indians hosted Southern California Native American Tribes, CNRA, DWR, CDFW, the SSMP Team, and the California Energy Commission for an Inter-Tribal roundtable discussion on the Salton Sea. During this roundtable, Tribal and state leaders discussed partnerships and opportunities for restoration and conservation

projects in and around the Salton Sea and Eastern Coachella Valley and the State's efforts regarding the development of renewable energy, lithium, and geothermal resources. On November 4, 2022, a joint Tribal meeting was held on the LRP to receive comments and feedback on proposed restoration concepts and evaluation criteria. The Corps, as the lead agency for the Phase 1: 10-Year Plan National Environmental Policy Act (NEPA) Environmental Assessment (EA) process, initiated Tribal engagement in 2022. The Corps has reached out by letter, email, and phone and met with Tribes who determined they would like to consult. The federal cooperating agencies and DWR participated in the process. Tribal engagement on the EA and development of documents to support protection of tribal resources is ongoing into 2023.

Planning

In 2022, the SSMP Team intensified its planning activities on three main fronts to continue its strategic vision for delivering dust suppression and habitat projects in the remaining years of the Phase I: 10-Year Plan. The Team also focused on the development of a Community Needs Strategy to identify needs for Salton Sea communities.

Environmental planning involved the preparation of a draft Environmental Assessment (EA) for the Phase I: 10-Year Plan, which is being developed with six federal agencies and will provide comprehensive NEPA compliance and a permitting structure for additional Phase I

projects. Public comments were received on the draft EA published in June 2022, and a revised final version is planned for release in spring 2023. The resulting EA and permitting process will provide a framework for coordinating with the six participating federal agencies and a streamlined approach for funding, land access, and permits. This EA document covers the following projects and activities: creation of aquatic habitat at the Alamo, New, and Whitewater Rivers; the North Lake Pilot Demonstration Project; the Desert Shores Channel Restoration Project; the Audubon Wetland Restoration Project; and a variety of other dust suppression and habitat projects.

The draft LRP for the Salton Sea, a requirement of the State Water Board Order WR 2017-0134 was submitted in December 2022. In support of this Plan, water importation concepts were evaluated. An Independent Review Panel (IRP) convened by the University of California at Santa Cruz was commissioned by the SSMP to review concepts for water importation to the Salton Sea for its long-term restoration. Thirteen restoration concepts, including several variations of each, were identified for consideration in the LRP. The concepts were evaluated using criteria based on federal planning guidelines in the following four categories: (1) Effectiveness, (2) Acceptability, (3) Completeness, and (4) Efficiency. The restoration concepts were scored according to these criteria under three hydrologic scenarios (high, low, and very low probability scenarios). The LRP recommended specific concepts for further evaluation and development at the next

phase of feasibility and environmental review, which will be conducted jointly by the Corps and the DWR through the Imperial Streams Salton Sea and Tributaries Feasibility Study. The LRP did not identify a single restoration concept as the preferred alternative and highlighted the strengths of different alternatives depending on the criteria being considered. The Salton Sea Monitoring Implementation Plan (MIP), a regional-scale monitoring plan for the Salton Sea ecosystem, was completed in December 2022. The MIP was developed in collaboration with the SSMP Science Committee and multiple working groups, which included key Salton Sea experts and interested parties in several resource areas like hydrology and water quality, air quality and geography (land cover), biological resources, socioeconomics, and data management.

In recognition of the need for greater investment in the historically underinvested communities at the Sea, CNRA supported development of a Salton Sea Community Needs Strategy. The SSMP's consultant, Better World Group, and additional community partners met with residents and representatives across a variety of platforms to capture community concerns and recommendations that can be integrated into the strategy. Vital needs identified by communities and addressed within this document include equitable outdoor access, public health, workforce and sustainable economic development, climate resilience, transportation, and broadband access.

Monitoring equipment at Clubhouse vegetation enhancement site.



Community Engagement and Transparency

The SSMP Team continued to place a strong focus on community engagement throughout 2022. The SSMP Team seeks to develop and actively maintain an engagement program that enables consistent open lines of communication and

serves to engage the frontline communities of the Salton Sea region, creating opportunities for community members to share concerns and provide input, and ultimately contribute to the delivery of projects that improve conditions for communities around the Salton Sea.

The SSMP Community Engagement Committee serves as the hub and primary venue to plan engagement activities and identify the best outreach and involvement strategies for SSMP public events. This includes coordination with the SSMP Long-Range Planning and the Science committees. The Community Engagement Committee consists of representatives from community-based organizations, stakeholder groups, local leaders, governmental agencies, and Tribal governments. It enlists leaders of local community groups and nongovernmental organization (NGOs) to help guide SSMP engagement efforts, reach community members through varying communications channels, and increase community engagement in SSMP planning activities.

Public engagement through virtual meetings occurred in 2022 as a part of all major ongoing SSMP activities. Over the past year, the SSMP Team has been involved in the following engagement activities:

- SSMP Update Community Meetings
- Community Engagement Committee Meetings
- Long-Range Plan Meetings
- NEPA Environmental Assessment
- IRP Meetings
- Monitoring Implementation Plan Meetings
- SCH Project Outreach
- SWRCB Annual Workshop
- Science Committee Public Meetings

Next Steps

An important milestone for 2023 will be the completion and commissioning of the 4,100-acre SCH project. Building on the SCH project and anticipating additional exposed lakebed at the southern end of the Sea, planning and design work will begin on the SCH Expansion Project, which seeks to add approximately 7,000 acres of adjacent aquatic habitat as part of the SSMP habitat acreage targets.

Work will also expand along the northern shore of the Sea. Site access is expected to be obtained for the 1,600-acre North Lake Project; conceptual design for this project will be initiated; and water supplies will be identified. For the 160-acre North Lake Demonstration Pilot Project, field surveys and detailed designs will be completed, and a contractor will be hired to construct the project. Project construction for the Desert Shores channel restoration project also will begin.

Work will continue to advance on the three vegetation enhancement projects at Clubhouse, West Bombay Beach, and Tule Wash. This includes completion of seeding/planting and irrigation, bale placement at the Tule Wash site, and installation of stormwater spreading infrastructure. Five groundwater production wells across the three sites will be developed and will provide a source of local water supply to irrigate the vegetation projects.

In addition to significant activities in 2023 on these projects, conceptual design and planning

will continue on other projects targeted for implementation in 2024 and beyond. These include the Wister Marsh Project, the San Felipe Fan Project, and the SCH Vegetation Project.

Besides these project-specific activities, the SSMP Team is developing land-access templates and a streamlined permitting process for more timely delivery of projects. While specific project concepts for future years are outlined in this report to show the SSMP Team's approach to meet the State Water Board Order WR 2017-0134 targets, the Team is committed to ongoing engagement with the community to further refine and revise each of these concepts.

The SSMP Team encourages the public, community partners, Tribal governments, and other interested parties to get involved through a number of venues. These include:

- Attend workshops and committee meetings: Most meetings are open to the public and are accessible virtually. There are updates on future meetings through newsletters, flyers, and announcements via both traditional and social media.
- Communicate via email: Interested individuals can reach out by email at cnra-saltonsea@resources.ca.gov.
- Receive website updates and newsletter: Information on current and future updates is provided on the SSMP website: <https://saltonsea.ca.gov/>. Interested individuals may also **sign up** to receive regular email updates about the SSMP.

1 Introduction and Purpose

The future of the Salton Sea (Sea) remains a focus of national attention as the Colorado River basin addresses a historic, two-decade-long drought coupled with growing water demands across the basin and anticipated long-term worsening conditions due to climate change. The Newsom Administration is focused on implementing projects on the ground that benefit the communities and wildlife that depend on the Sea, and developing a pathway for future projects during this decade and beyond. This work is driven by the Salton Sea Management Program (SSMP) — led by the California Natural Resources Agency (CNRA) in collaboration with the California Department of Water Resources (DWR) and the California Department of Fish and Wildlife (CDFW). Together these agencies are known as the SSMP Team. The SSMP Team worked closely with local, state, Tribal, and federal partners to advance projects in 2022; the relationships that have been developed and the project experience gained thus far will help accelerate project delivery in 2023 and beyond.



At the highest level, the SSMP Team remains focused on the following goals:

- Drive implementation of the SSMP's Phase I: 10-Year Plan, which aims to improve conditions around the Sea by constructing 30,000 acres of projects to suppress dust from exposed lakebed and create habitat for fish and birds;
- Work with federal partners and the Salton Sea Authority (SSA) to develop and complete the *Imperial Streams Salton Sea and Tributaries Feasibility Study* to identify actions for long-term restoration of the Sea;
- Continue to strengthen partnerships with local governments and non-profits, Tribal governments, and communities to deliver projects

Report Goals

This report highlights project planning and implementation activities during 2022 to meet the requirements of State Water Resources Control Board Order WR 2017-0134. The primary focus is on work completed in 2022 and specific plans for projects over 2023-2028, the growing capacity of the SSMP Team to meet future goals, and ongoing engagement with regional partners and local communities. This report also includes an update on the funding status of the program.

and institutionalize inclusive community engagement within and across SSMP projects; and

- Add capacity and expertise to the SSMP Team to enable the State to deliver projects on an expanded scale.

1.1 Notable Highlights Since Preparation of 2022 Annual Report

Major progress on the implementation of the 4,110-acre Species Conservation Habitat (SCH) Project has continued. All berms and nesting and loafing islands have been completed, and major earth moving activities have been finished. A causeway used to connect the saline pump station to the habitat ponds has been constructed as well as the New River weir. Construction of the New River Diversion Structure, which is designed to direct river and Salton Sea water into the habitat ponds, has been completed. The project is on track for completion in 2023.

On March 16, 2022, the Torres Martinez Desert Cahuilla Indians hosted Southern California Native American Tribes, CNRA, SSMP, DWR, CDFW, and the California Energy Commission (CEC) for an inter-Tribal roundtable discussion on the Salton Sea. During this roundtable, Tribal and state leaders discussed partnerships and opportunities for restoration and conservation projects in and around the Salton Sea and Eastern Coachella Valley and the State's efforts regarding the development of renewable energy, lithium, and geothermal resources.

In June 2022, the U.S. Army Corps of Engineers (Corps) released for public review and feedback the Draft Environmental Assessment (EA) (performed under the National Environmental Policy Act [NEPA]) for the Phase I: 10-Year Plan. The plan is described in CNRA, DWR, and CDFW (2017). This EA provides a broad umbrella for environmental compliance for a variety of SSMP Phase I: 10-year Plan projects, including ponds and wetlands, and dust suppression and vegetation enhancement projects around the Sea. Following receipt of public comments, the EA is being revised and is anticipated to be finalized in Spring 2023.

Governor Newsom signed [Senate Bill 125](#) in June 2022, which created an excise tax on lithium extraction beginning in January 2023. The bill directs 80 percent of the tax revenue to Imperial County and 20 percent to maintenance and development of Salton Sea restoration projects and grants for community engagement or community-benefit projects at or around the Salton Sea.

On November 4, 2022, with the assistance of the Torres Martinez Desert Cahuilla Indians, a joint Tribal meeting was held with Tribal governments for the SSMP to provide an update on the development of the Long-Range Plan (LRP) including the restoration concepts and the concept evaluation criteria. Tribal feedback and comments compiled during the meeting were incorporated into the LRP, mainly relating to acceptability criteria. Based on feedback, more

information is needed to analyze the concepts. Primarily, site-specific information is needed to evaluate potential impacts to the access and protection of natural resources, cultural resources, and Tribal cultural resources and landscapes. Informational meetings related to the LRP and the U.S. Army Corps Feasibility Study will continue throughout 2024.

In December 2022, the SSMP Team submitted the draft LRP to comply with State Water Board Revised Order WR 2017-0134 (Order). The Order requires CNRA to issue a long-term plan no later than December 31, 2022, as a second phase to the Phase I: 10-year Plan projects, to establish a pathway for the Salton Sea beyond the first 10 years. One key input for the LRP was a review of water importation concepts for the Sea. The SSMP contracted with the University of California, Santa Cruz (UCSC) in June 2021 to facilitate the establishment of an expert Independent Review Panel (IRP) to conduct a feasibility study of water importation strategies for the Salton Sea. The results of the independent review informed restoration options for the LRP and were presented to the State in September 2022 and are publicly available (UCSC, 2022). The findings of the IRP were incorporated into the State's draft LRP.

In December 2022, to address water shortages on the Colorado River, an impact of the continuing 23-year drought in the basin, California water agencies that use Colorado River water supplies proposed to conserve up to an additional 400,000 acre-feet of water each year from 2023-2026. Of

this volume, Imperial Irrigation District (IID) and Coachella Valley Water District (CVWD) would conserve a combined 285,000 acre-feet of their expected water deliveries at Lake Mead and Lake Powell as needed each year through 2026 as one part of a more comprehensive plan to protect system-wide deliveries. Depending on how the flow reductions are managed, this is expected to reduce inflows to the Sea by more than 100,000 acre-feet, which will have effects on its water level and salinity. The Commitment to Support Salton Sea Management Related to Water Conservation in the Lower Colorado River Basin Agreement set to accelerate Salton Sea projects, established by the U.S. Bureau of Reclamation (Reclamation) in partnership with CNRA, IID, and CVWD, also envisions federal support funded by the Inflation Reduction Act for Salton Sea restoration projects that are being conceived by the State and are covered by the NEPA EA described above. As part of the Salton Sea Commitment Agreement, the Department of Interior, IID, and CVWD agreed to establish programmatic land access agreements to enable state agencies to implement projects. Allowing the SSMP Team and its partners to continue delivering on project commitments will help mitigate the potential impacts from the receding Sea.

Implementation of the vegetation enhancement projects continues at the Clubhouse and Tule Wash sites, near the community of Salton City, and at the Bombay Beach West site, near Bombay Beach. Work at these sites involves placement of

Workers constructing the saline pump station for the SCH Project.



bales as an initial phase. This is a known technique to reduce wind speeds and provide immediate benefits by reducing dust emissions. The bales also create a more sheltered environment for plant establishment. The ongoing work is focused on vegetation enhancement, with the installation of drip irrigation across the sites, planting and seeding with native species, and enhancement of existing vegetation. The end goal of these projects is to achieve 30% cover of the exposed, potentially emissive lakebed areas with vegetation species that can grow in the arid environment of the Salton Sea.

Additional planning documents have been prepared in support of the SSMP. The final version of the Monitoring Implementation Plan (MIP) was released in December 2022. This is a science-focused plan to identify, prioritize, and describe monitoring activities to track the status and trends of resources at the Salton Sea, which can be used to inform the implementation of the restoration programs. The Community Needs Strategy, planned for release in May 2023, identifies core needs for Salton Sea communities and outlines recommendations for the SSMP, its state partners, local government, and other

participants to advance community amenities. Vital needs identified by communities and addressed within this document include the following: equitable outdoor access, public health, workforce and sustainable economic development, climate resilience, transportation, and broadband internet access.

1.2 In Appreciation

Arturo Delgado, who led the SSMP Team during a period of significant progress, retired from state service as of August 31, 2022. Following his appointment in 2019 by Governor Gavin Newsom to serve as Assistant Secretary for Salton Sea Policy at CNRA, Delgado was integral to advancing the State's commitments at the Salton Sea, including the following: breaking ground on the largest restoration project in the Sea's history; starting important vegetation management work on exposed lakebed; and increasing organizational capacity to meet the growing demands for restoration projects at the Sea. The SSMP Team deeply appreciates his knowledge, leadership, and deep commitment to making progress.

1.3 Additional Activities Related to Lithium Production

Separate from the restoration activities described in this report, Assembly Bill 1657 authorized the CEC to convene a Blue-Ribbon Commission on Lithium Extraction in California (Lithium Valley Commission). The term "Lithium Valley" describes the potential world-class lithium

industry in California centered on recovery of lithium from geothermal brine in the Salton Sea region and the expansion of geothermal energy production, along with creation of direct and related economic and community development opportunities. The final report of the Lithium Valley commission was released on December 1, 2022 (Paz et al., 2022). The SSMP Team, while focusing on restoration projects, will work in coordination with the findings of the Lithium Valley Report to also support the goals of the Lithium Valley Commission.

1.4 Updates for State Water Resources Control Board Order WR 2017-0134

Table 1 provides an overview of the reporting requirements defined in the State Water Board Order WR 2017-0134. This annual report goes beyond the requirements in the Order and provides an update on the extensive range of management, planning, permitting, and construction activities intended to support the delivery of future SSMP milestones. The Order also requires an update on environmental conditions at the Sea. This information is summarized in Appendix A of the report.

1.5 Report Organization

This report follows the general outline of the previous annual reports. Chapter 2 summarizes land access status and project status. Chapter 3 describes the extensive partnerships across the region that have been formed to facilitate the

development of projects, including federal, state, and local agencies, Tribal governments, and other nongovernmental organizations (NGOs). Chapter 4 presents engagement with the community and Salton Sea Partners. Chapter 5 describes planning activities at various levels, such as program planning, environmental planning, and funding to support the future implementation of the Phase I: 10-Year Plan projects. Chapter 6 describes the near-term steps in project delivery and planning for meeting the longer-term targets of State Water Board Order WR 2017-0134. Chapter 7 contains the references. Appendix A contains a summary of data describing recent environmental conditions at the Sea, including inflows, water elevation, and salinity. Appendix B provides a detailed breakdown of funding sources for the SSMP.

Table 1. Activities Identified in State Water Board Order WR 2017-0134

Item	Reporting Requirement	SSMP Activity
(i)	Completed projects and milestones achieved in the prior year.	<p>The following are key accomplishments in 2022:</p> <p>Major progress on the SCH Project: Completion of most pond berms, nesting islands, the causeway connecting the saline water source to the pump and habitat ponds; and of the New River Diversion Structure.</p> <p>Implementation of vegetation enhancement projects at Clubhouse, Bombay Beach West, and Tule Wash.</p> <p>Completion and public release of several key planning documents: NEPA Draft Environmental Assessment for the Phase I: 10-Year Plan, Independent Review Panel report on water importation options, public draft of the Long-Range Plan, and the Monitoring Implementation Plan.</p> <p>Development of project concepts for the following five projects targeted to begin implementation by 2024/2025: SCH Expansion, main North Lake project, San Felipe Fan, SCH Vegetation Project, and Wister Unit Marsh Bird Habitat.</p>
(ii)	Amount of acreage of completed work that provide dust suppression and habitat creation, broken down by habitat type.	<p>Vegetation Enhancement Projects: Approximately 290 acres seeded and/or planted within the existing rows of grass bales at Clubhouse and West Bombay Beach sites. An additional 1,085 acres of vegetation enhancement projects began implementation at Clubhouse, Tule Wash and West Bombay Beach.</p> <p>Habitat Projects: Continued progress on the 4,110-acre SCH project with completion expected in 2023, and initiation of the North Lake Demonstration Pilot Project. Progress on the detailed design of the Audubon Wetland Project at Bombay Beach.</p>
(iii)	Upcoming projects to be completed and milestones to be achieved prior to the next annual progress report.	<p>The following are some key activities planned in 2023:</p> <ol style="list-style-type: none"> 1. Completion of the SCH project 2. Complete drilling of five groundwater production wells to support vegetation projects around the Sea 3. Complete implementation of three vegetation enhancement projects (Tule Wash, Clubhouse, and West Bombay Beach) 4. Publish Final EA for the Phase I: 10-Year Plan 5. Design SCH expansion project that includes additional ponds to the north that utilize infrastructure constructed for the SCH 6. Finalize design of the North Lake Demonstration Pilot Project

Table 1. Activities Identified in State Water Board Order WR 2017-0134 (Contd.)

Item	Reporting Requirement	SSMP Activity
(iii) [cont.]		<p>7. Obtain land access and water rights for the five additional project areas described above under item (i)</p> <p>8. Complete design for the North Lake Project (beyond the Demonstration Pilot Project)</p> <p>9. Work with partners to facilitate progress on the Audubon Wetlands Project and Desert Shores</p>
(iv)	Status of financial resources and permits that have not been secured for future projects.	<p>Financial resources: Funding has been appropriated for the completion of the SCH, the three vegetation enhancement projects, the North Lake Demonstration Pilot Project, and partial funding for the SCH expansion and the main North Lake Project. Resources in the form of staff time are allocated to the Audubon Wetlands Project. Future funding will be required for all other Phase I: 10-Year Plan projects identified in this report. Additional federal funding will be obtained from drought-related funding from the U.S. Bureau of Reclamation, and also from the Natural Resources Conservation Service.</p> <p>Permits: Permit needs are evaluated on a project-by-project basis and have been obtained for all projects now under construction. When the EA is completed and the Letter of Permission procedures are in place, the SSMP will have a streamlined mechanism to receive federal permits and land access for additional Phase I: 10-Year Plan projects. The SSMP Team is supporting the NEPA and permitting effort. The SSMP Team has also been tracking the recently implemented Statewide Restoration General order and plans to utilize it for certain 401 certifications.</p>
(v)	Any anticipated departures from the dates and acreages identified in Condition 24 of the State Water Board Order.	<p>There have been departures from project delivery dates, in many cases related to delays associated with securing land access and water rights. Based on our current understanding of the steps required to implement additional projects, Chapter 6 describes anticipated dates to achieve the acreage schedule. However, because the State is not a significant landowner around the perimeter of the Sea, the timely implementation of all projects on the ground is contingent on expedited support from entities that do own or administer these lands. An important step forward is the Salton Sea Commitment Agreement between Colorado River water users, signed in December 2022, that includes a provision to establish programmatic land access agreements to enable state agencies to implement projects. Similar to land access, there is a need to obtain legal access to surface water sources and also develop groundwater resources in regions where surface water availability is minimal.</p>

Table 1. Activities Identified in State Water Board Order WR 2017-0134 (Contd.)

Item	Reporting Requirement	SSMP Activity
(vi)	Progress toward development of the Long-Range Plan described in Condition 26.	<p>The SSMP Team contracted with the University of California at Santa Cruz to convene an Independent Review Panel to conduct a feasibility analysis for water importation. This panel provided its recommendations in September 2022, and the report is publicly available.</p> <p>The results of the IRP report informed restoration options for the draft Long-Range Plan. A public draft of this plan was released by the SSMP Team in December 2022. This plan will be a focus of additional NEPA analysis by the U.S. Army Corps of Engineers.</p>
(vii)	Should an annual milestone shortfall exceed 20 percent of a year's annual obligation, the report will also include a plan that will cure the deficiency within 12 months.	<p>The State's vision for future project delivery to meet the annual obligations is described throughout this report and is summarized in Chapter 6.</p>



2 SSMP Project Delivery

Since CNRA's last report to the State Water Board in February 2022, the SSMP Team has made active progress on the implementation of habitat and dust suppression projects. This includes the achievement of major construction milestones on the SCH project (completion of berms, nesting and loafing islands, major earth moving activities, and saline pump causeway, and the near completion of the New River Diversion Structure), obtaining permits for implementation of three vegetation enhancement projects (Clubhouse, Tule Wash and West Bombay Beach), and placement of bales and planting/seeding at these sites; land access agreements on the North Lake; and conceptual design of multiple habitat projects slated for construction in the next two years (such the Bombay Beach Wetland Project, the SCH Expansion Project, and the North Lake Project).



2.1 Land Access

Land around the Salton Sea is owned by local, state, Tribal and federal entities – all with differing processes and procedures for land access. There are also a significant number of private landowners on affected parcels. A template cannot be applied across the board to streamline the process. A breakdown of ownership on the roughly 235,000 acres of land around and under the Sea shows the following major landowners: IID (106,000 acres); U.S. Bureau of Reclamation (Reclamation) (82,000 acres); U.S. Bureau of Land Management (BLM) (12,000 acres); and the Torres Martinez Desert Cahuilla Indians (10,500 acres). Of the remaining 25,000 acres, only 3,900 acres are owned by the State and the rest by other entities. Most of the State-owned land is currently under water and thus not amenable to habitat or dust suppression project development.

Because of this limited landownership, the SSMP must enter into a land access agreement(s) for each project site before project design can be finalized, any necessary water rights applied for, and implementation can begin. Varied landownership also impacts project timelines and increases costs for project delivery. Each project site may span multiple parcels under different ownership, so multiple land use agreements may be required for access to and implementation of a single project. This presents a significant

challenge for the SSMP. The SSMP Team is currently in the process of negotiating land access agreements totaling approximately 10,000 acres, with at least eight different landowners, some of which have been in development for two years.

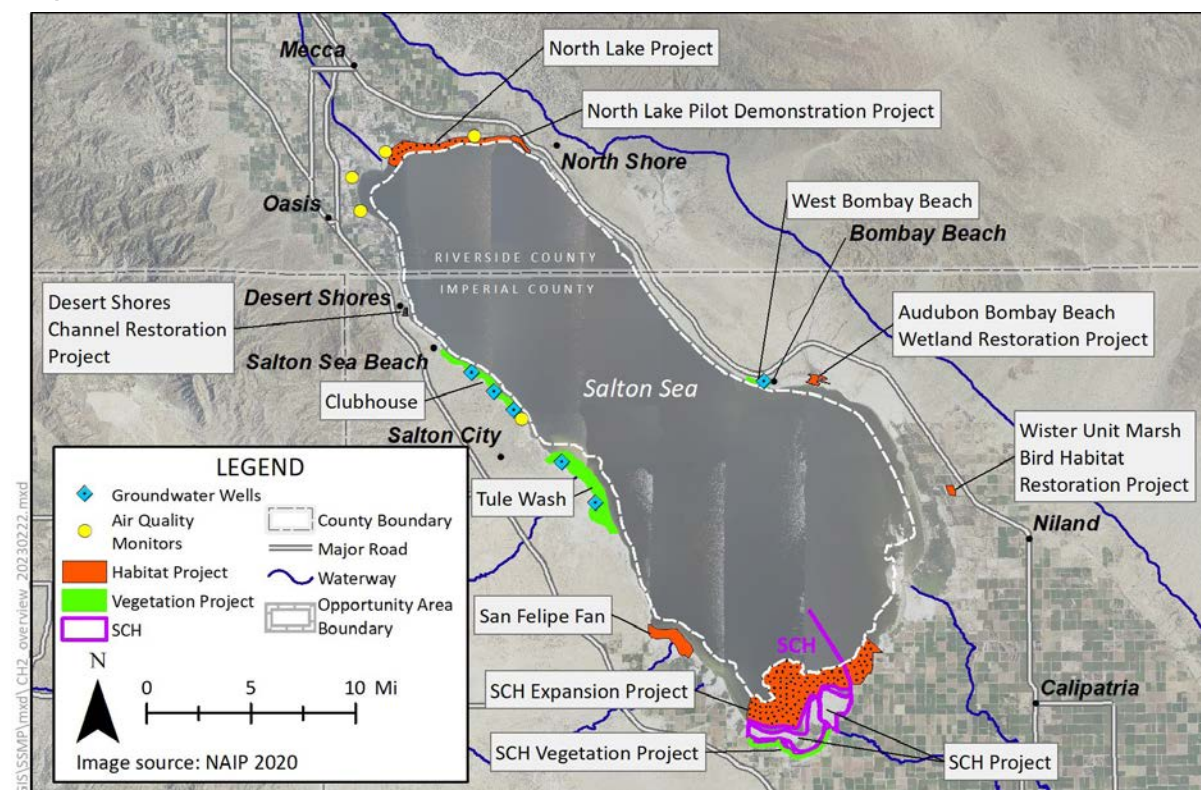
Recognizing the critical role of land access in timely project delivery, as part of the December 2022 Salton Sea Commitment Agreement to address the long-running drought on the Colorado River, the Department of Interior, IID, and CVWD agreed to establish programmatic land access agreements to enable state agencies to implement projects.

2.2 Project Updates

Projects in progress at the Salton Sea are shown in **Figure 1**, illustrating the wide range of activities currently being undertaken by the SSMP Team and its partners toward implementation of projects at the Sea and its surrounding communities. The SSMP Team has undertaken an inclusive approach with public outreach at key steps to identify these future projects for development at the Sea.

The Corps, which is leading the NEPA EA for the 10-Year Plan, released the draft EA document in June 2022. The draft EA covers the SSMP projects described below, except for the SCH Project, for which a comprehensive environmental planning process was completed in 2013, and a subset of dust suppression and vegetation enhancement projects on Reclamation land, for which federal environmental compliance was completed in 2021.

Figure 1. Projects in progress and potential future projects under consideration at the Salton Sea. Project areas with dotted patterns indicate approximate footprints. The Opportunity Area boundary indicates the portion of the Sea covered by the NEPA Environmental Assessment for the Phase I: 10-Year Program (described further in Chapter 5).



2.2.1 Species Conservation Habitat Project (approximately 4,100 acres)

Implementation of the SCH project, via a design-build contract, was initiated in 2021 and is moving forward at full steam. The SCH project will restore approximately 4,100 acres of shallow water habitat lost as a result of the Salton Sea's increasing salinity and receding shoreline. It is the

SSMP's first large-scale project and has created a network of ponds and wetlands to provide important fish and bird habitat while suppressing dust emissions to improve regional air quality as the Salton Sea continues to recede.

The SCH project is the first of many projects the SSMP Team will implement as part of the Phase I: 10-Year Plan. It was chosen as the first large-scale

Figure 2. Center Habitat Pond nesting island.



project in part because water-balance models show that, as the Sea recedes, the southern end of the Sea will experience some of the earliest lakebed exposure given its shallow bathymetry.

In 2022, work completed on this project includes the following:

- All berms and nesting and loafing islands have been completed, and major earth moving activities have been finished (**Figure 2** and **Figure 3**).
- The causeway connecting the saline pump station to the habitat ponds has been completed (**Figure 4**).

- Drain interconnections between the IID drains and the Interceptor Ditch have been constructed.
- Construction of infrastructure including the weir structure, roads, gates, electrical and pump placement continues.

The New River Diversion Structure is a major component of the overall SCH Project, and its anticipated completion in February 2023 represents an important milestone for the project.

Figure 5 shows completed progress at the diversion structure as of December 2022. The diversion structure allows New River water to

Figure 3. Interior berm construction between center and west ponds.



mix with more saline water from the Salton Sea. The mixed water from the New River and Sea will then flow by gravity to the sedimentation basins and then to the habitat ponds. The New River diversion structure is also a flood control structure that will allow for water to go through without compromising the integrity of the project.

Construction of the SCH Project is expected to continue through the end of 2023. Even as work continues, endangered desert pupfish and a broad range of bird species already are actively using the new habitat created with completion of the interception ditch last year.

Figure 4. Causeway and saline pump station pier, looking south.



Figure 5. Progress of the New River diversion structure in December 2022. The diversion structure allows for water diversion into the habitat ponds.



2.2.2. Vegetation Enhancement Projects

The SSMP Team released the Dust Suppression Action Plan (DSAP) in July 2020 to identify and accelerate priority SSMP projects that limit dust emissions and restore habitat at the Sea (CNRA, 2020). The goal of these projects is to restore exposed lakebed areas around the Salton Sea through native vegetation establishment, enhancement of existing vegetation stands, and stabilization of the lakebed through physical means to allow seed germination and plant growth (hereafter, these measures are collectively referred to as “vegetation enhancement”). Engineered roughness, by means of placing grass bales, has been completed as a first step of the development of dust suppression at these sites. This approach has been demonstrated to reduce dust emissions at other locations; site monitoring at the Clubhouse site showed a more than 95% reduction of dust emissions. The current focus of work on these sites is on vegetation enhancement to achieve a 30% vegetative cover, through installation of drip irrigation and seeding and planting with native species. Once vegetation is established at the target level, the sites are expected to be minimally emissive, with much greater than 95% reduction in emissions (based on published studies on dust emissions from sandy surfaces).

2.2.2.1 U.S. Bureau of Reclamation and SSMP Collaborative Projects in Progress (approximately 1,700 acres)

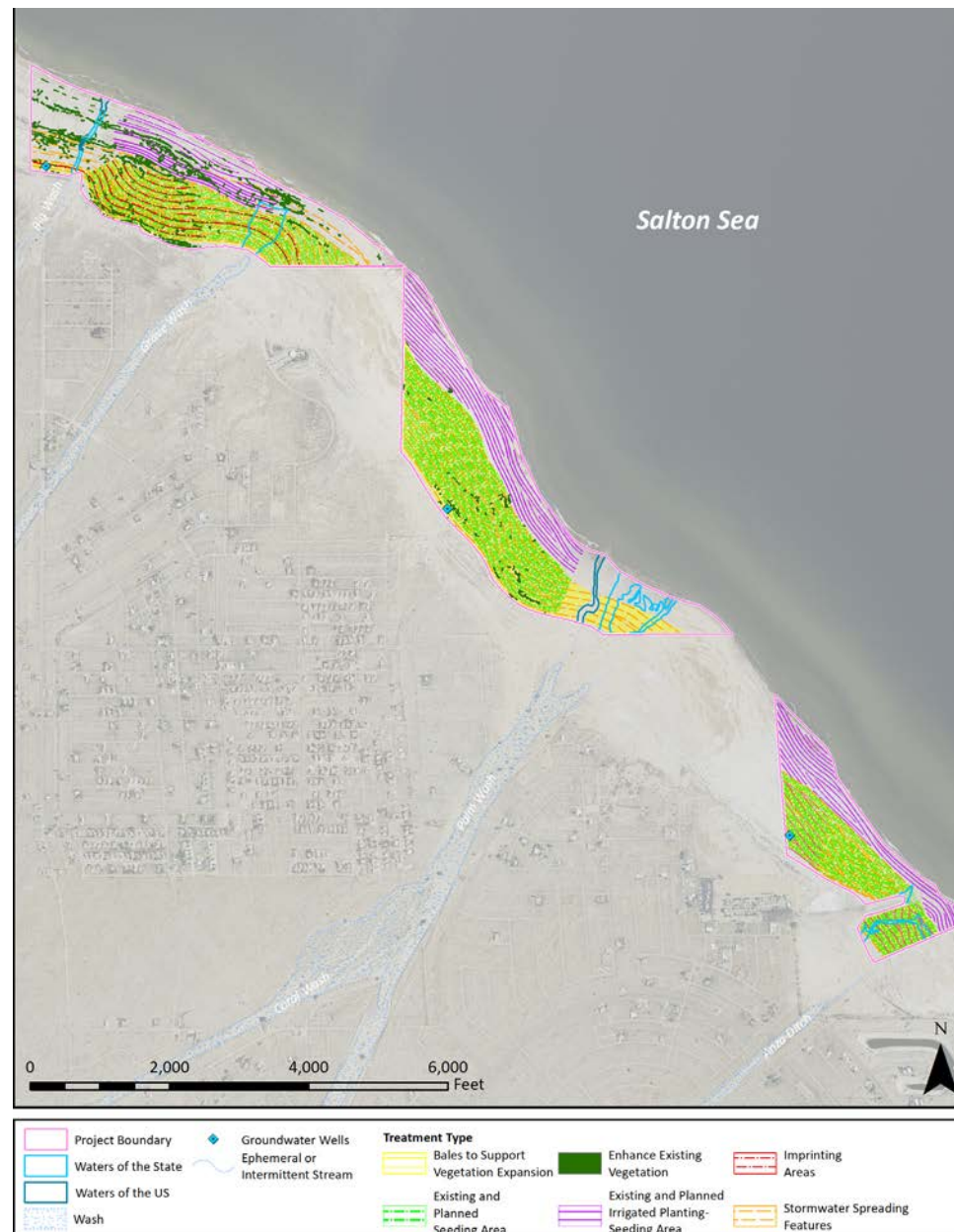
The SSMP Team continued its collaboration with Reclamation to develop projects. Three sites, with significant Reclamation-owned land, Clubhouse, Tule Wash, and West Bombay Beach (**Figure 1**), were prioritized. Two sites are located near the community of Salton City: Clubhouse (approximately 400 acres) and Tule Wash (approximately 1,215 acres) (**Figure 6** and **Figure 7**, respectively). The third site (approximately 90 acres) is located near the community of Bombay Beach (**Figure 8**). Collectively, these sites total approximately 1,700 acres. Clubhouse and Tule Wash were identified in the DSAP; West Bombay Beach was added because it was determined to be a good candidate due to its emissivity potential and proximity to the

community of Bombay Beach. Additional sites, totaling approximately 900 acres, are proposed on Reclamation-administered lands at San Felipe Fan, Bombay Beach, and North Shore.

The following is a high-level overview of work being done at these sites (the locations of these activities are shown in **Figure 6** through **Figure 8**):

- Access routes to sites and within sites have been developed to allow vehicular traffic for delivery of material, seeds/plants, and water. Some routes have been designed for heavy-duty trucks (well-drilling, large bale delivery, water delivery) and some for light-duty vehicles (seeding, planting, monitoring).
- In the initial phase of this work, dust suppression methods have been implemented using surface roughening with large furrows and/or engineered roughness in the form of grass bale placement. These methods reduce surface wind speeds, and thus saltation and dust emission from exposed lakebed. By stabilizing the surface and reducing sand ablation, they also provide conditions for the survival of germinated seed and smaller plants. The primary benefits of these approaches are to reduce wind abrasion on immature plants and bring immediate benefit to dust emissions and human health.
- The SSMP Team also collected local seeds from around the Salton Sea and worked with botanists to grow and test plants that can tolerate salinity present in the region.
- Subsequent phases are focused on vegetation enhancement. Existing vegetation at the site is enhanced by removing invasive species and is otherwise minimally disturbed. Native seed mixes have been developed as well nursery-grown plants. These are applied across the project sites interspersed with the grass bales and furrows as shown in Figures 6 through 8.

Figure 6. Layout of the vegetation enhancement project at the Clubhouse site (see Figure 1 for general site location).



- The seeds and plants are irrigated with drip irrigation to support germination and growth prior to plants becoming self-sustaining. Initially, water is supplied for drip irrigation by truck.
- To supplement water supplies to the vegetated areas, at selected locations, stormwater flows are spread across the landscape by intercepting flows in washes and diverting the water across the lakebed. Diversion of stormflows, although infrequent, can add moisture and support the germination of seed or support plants.
- To provide a stable and local water supply that does not require transport over long distances, five deep groundwater wells (up to 800 feet deep) are being developed within project areas. Pipeline and pump infrastructure is being developed to transport water across the sites.

2.2.2.2 Projects in Planning Phases

San Felipe Fan Project (660 acres)

The San Felipe Fan is an area of exposed lakebed where the San Felipe Creek flows into the Salton Sea. Approximately 90-95% of the site is unvegetated, which is defined as having <15% vegetation cover. The areas suitable for vegetation enhancement and dust suppression at the project site are shown in **Figure 9**. The project design concept at this location involves the spreading of inflowing water to support vegetation. Use of stormwater flooding will need to be designed to enhance and support habitat for the endangered desert pupfish in San Felipe Creek. Because this would require more complex environmental compliance, it could not be part of the NEPA Categorical Exclusion for the three sites described earlier (Clubhouse, Tule Wash, and West Bombay Beach). This project will be covered by the NEPA EA being developed for the Phase I: 10-Year Plan.

The conceptual design involves the construction of lateral ditches perpendicular to the creek and along the contours so that stormwater can be retained in the ditches and infiltrated into the soil for vegetation uptake. Other proposed components and activities include the following: 1) increasing the surface roughness through placement of non-erodible organic elements, primarily grass bales; 2) planting and seeding of native

Figure 7. Layout of vegetation enhancement project at the Tule Wash site (see Figure 1 for general site location).

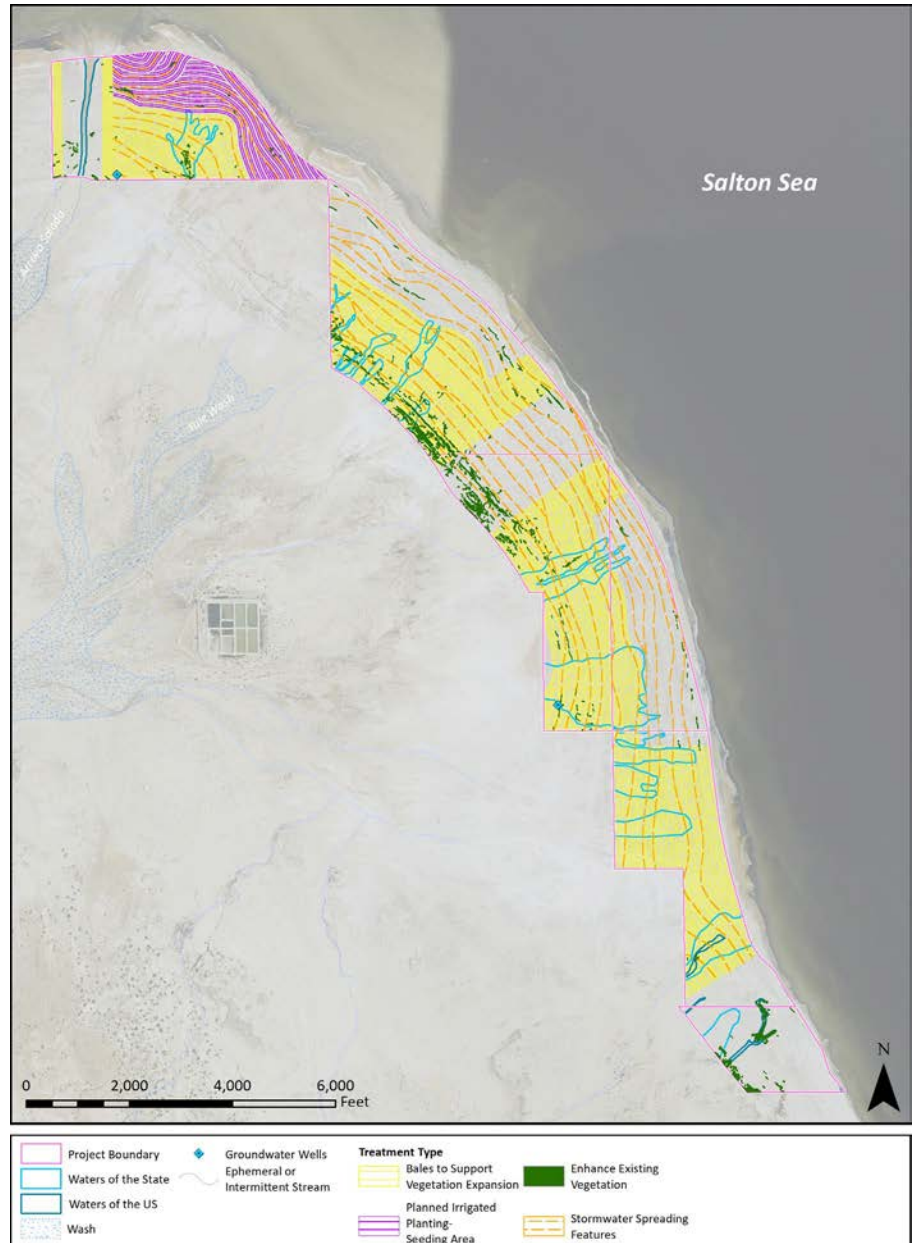


Figure 8. Layout of vegetation enhancement project at the West Bombay Beach site (see Figure 1 for general site location).



halophytic species across the site to create a plant canopy cover of 30%; 3) creating rock weirs on San Felipe Creek and adjacent swales and berms to promote stormwater spreading; 4) establishing groundwater supplies; and 5) installing irrigation lines for distributing water where needed.

In 2022, The SSMP Team prepared a project description containing the conceptual design for this project. In 2023, the project description will be used to further negotiations with landowners, develop water sources, and pursue environmental compliance and permitting.

Design elements and features from the Audubon Bombay Beach Wetland Enhancement Project (see Section 2.2.7) will be considered for use at the San Felipe Fan project site. Like the Audubon Project, the San Felipe Fan Project presents an opportunity to divert and disperse inflowing water to preserve and enhance existing wetlands on the site and for additional aquatic and wetland habitat creation. In this way, it will be possible to enhance and support habitat for the endangered desert pupfish in San Felipe Creek.

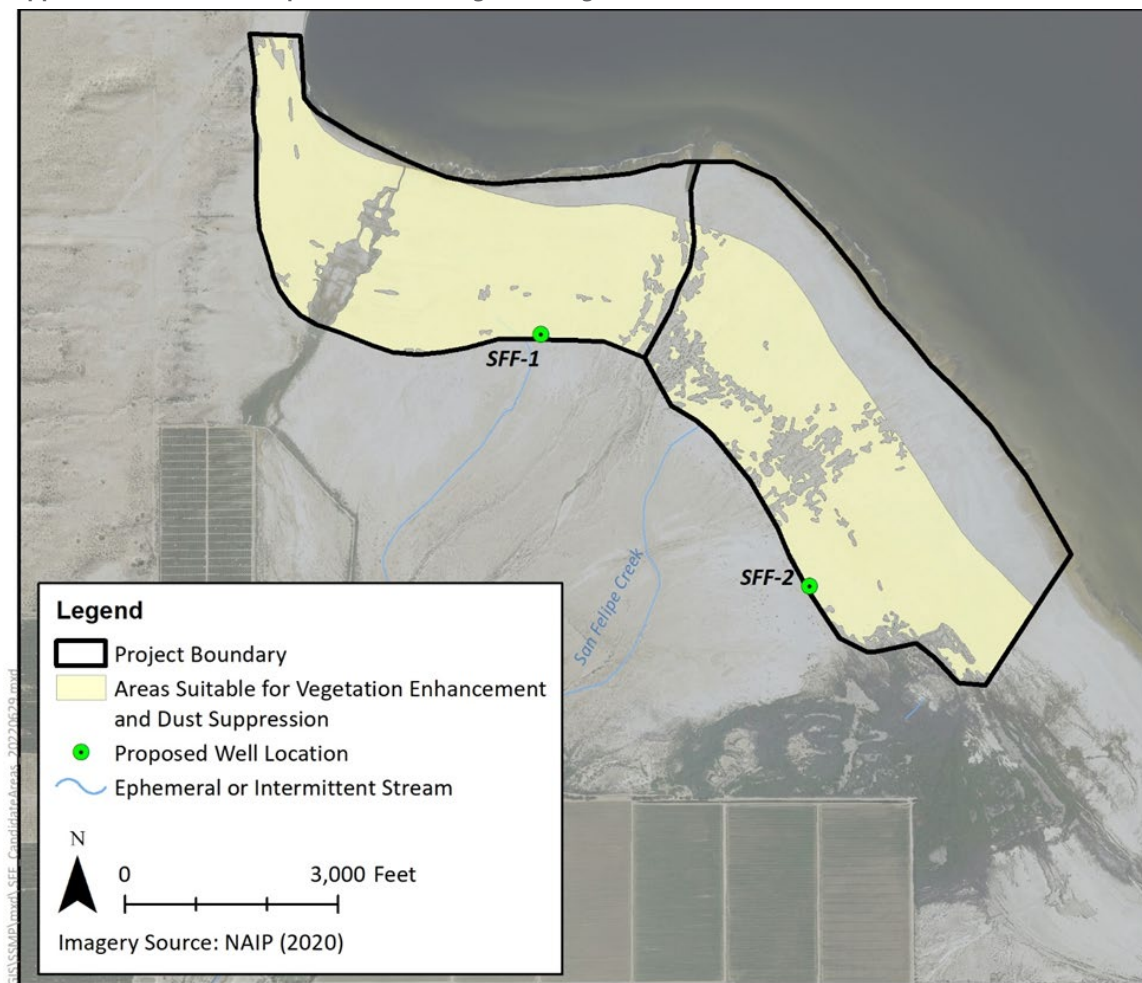
Key next steps and anticipated timeline include:

- Land Access and Regulatory Compliance – Summer 2023 through Winter 2023
- Design and Contracting – Winter 2023 through Winter 2024
- Construction – 2025

North Shore (24 acres)

The North Shore project includes approximately 24 acres. Based on community input during the DSAP development process in early 2020, this site was identified as a potential emission source. Prior to any project being implemented at this location, air quality monitoring is being conducted to understand the potential emissions. A set of air quality monitors was installed in March 2022 and is still operational. The monitoring involves real time measurement of saltation activity and particulate matter (PM) concentrations at different locations across the

Figure 9. Proposed project area of Reclamation-administered land for vegetation enhancement and dust suppression at the San Felipe Fan site (see Figure 1 for general site location).



planning area. No project is currently proposed at this site, but if the site is determined to be emissive after a year of monitoring, a site design will be developed. Depending on final alignments

of the North Lake Project, this area may fall within the footprint of the habitat project and not be designed as a separate vegetation enhancement/dust suppression project.

2.2.3 North Lake Pilot Demonstration Project (Approximately 160 acres)

The SSMP Team continues to work with the SSA and Riverside County to plan and construct the North Lake Pilot Demonstration Project, an approximately 160-acre lake, located at the northern end of the Salton Sea, in Riverside County near the unincorporated community of North Shore (**Figure 10**). This project could eventually become integrated into the adjacent, larger North Lake Project. In 2021, a \$19.25 million Proposition 68 funding agreement was finalized between the SSMP and SSA to plan and construct the project. The project will create both shallow- and deep-water habitat near the North Shore Beach and Yacht Club Community Center.

Figure 11 presents a conceptual footprint of the project. The project is planned to restore and manage habitat for fish and birds, control dust, and provide recreational opportunities. In January 2022, Riverside County issued a Request for Proposal (RFP) for design and engineering services, and in the summer, they approved a two-year agreement with Dudek Consulting. In addition, a water supply analysis was completed, land access was obtained, survey work began, and two community meetings were held to share plans for the project and solicit comments and feedback. Project construction is planned to begin in 2024.

2.2.4 Desert Shores Channel Restoration Project (Approximately 30 acres)

This project is located adjacent to the Desert Shores community in the marina that has become disconnected from the Sea (**Figure 10**). Implementation of the Desert Shores Channel Restoration Project would refill the five southernmost boat channels in the Desert Shores Marina. The SSMP Team is also collaborating with Imperial County, Reclamation, and SSA on this project. Reclamation has committed \$1.25 million to SSA.

The project aims to meet the project goals of habitat restoration and dust suppression by refilling the channels with water at a salinity level that provides habitat for fish and birds. In addition, habitat benefits are anticipated through revegetation.

The project would construct a berm across the former boat channel connection to the Salton Sea. Water would then be pumped from wells into the channels contained by the berm at a rate sufficient to refill the channels, offset losses from evaporation and seepage, and circulate water.

This project is an example of the partnerships between local, state, and federal agencies. Imperial County leads efforts to complete compliance under the California Environmental Quality Act (CEQA). In addition, the SSMP is including the project in the EA for the SSMP Phase I: 10-Year Plan. Design and implementation will be within the responsibilities of local agencies.

Key next steps for this project include:

- SSA to hire a consultant to develop the project
- Gain site control
- Complete permitting processes

Figure 10. Location of projects along the northern shore of the Salton Sea.

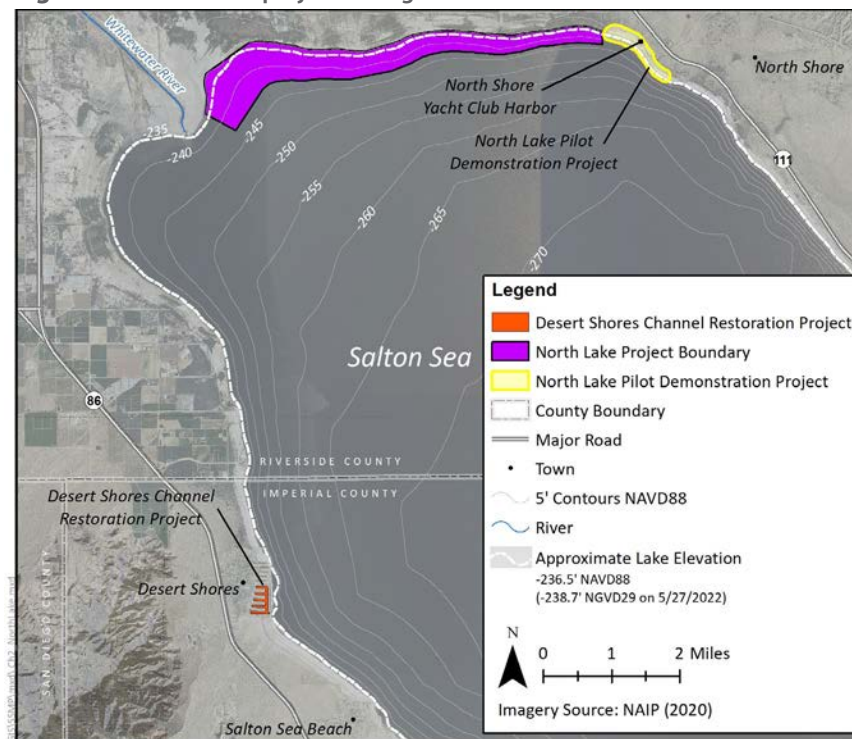
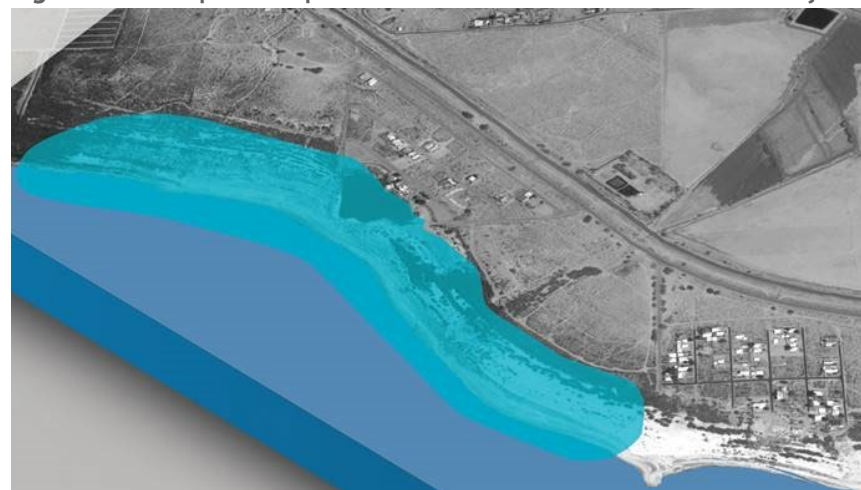


Figure 11. Conceptual footprint of the North Lake Pilot Demonstration Project.



2.2.5 North Lake Project (approximately 1,600 acres of aquatic habitat)

In 2022, the SSMP Team completed the Project Description for the North Lake Project, drawing on conceptual design work taking place over the prior several years. The Project Description details Alternative H, the current 1,615-acre preferred alternative (see **Figure 10**). The current project conceptual design consists of three cells separated by causeways. The multiple-cell design allows for independent operation of each cell. The causeways also serve as access roads to the main southern berm parallel to the shoreline for construction and maintenance purposes. Detailed aerial imagery for this site has been obtained in 2022. Based on this information, future work will further define the area(s), the water sources, and the types of aquatic habitat to be created for this 1,000 to 1,500-acre project. The project layout will work with the habitat areas that have naturally formed where agricultural drains reach the lakebed. The 160-acre North Lake Demonstration Project could also be connected to the larger North Lake Project.

Potential sources of water available for the project are the Whitewater River (also termed the Coachella Valley Stormwater Channel (CVSC) in its lower reach), the local agricultural drains, and the Salton Sea. Additional water supply could be sourced from groundwater that is not covered by the Indio Subbasin Groundwater Plan. For surface

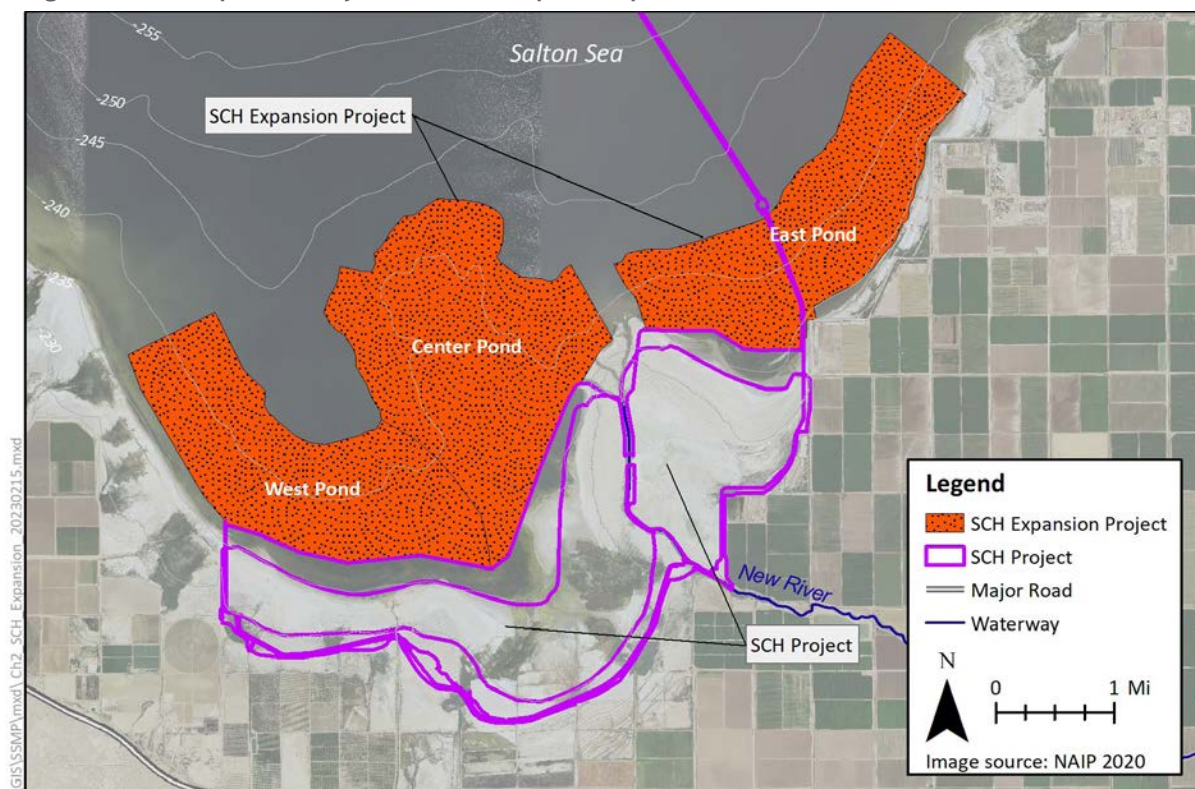
water sources, the two types of conveyance considered are gravity and pumping. Water from the Whitewater River/CVSC and from the agricultural drains can be either gravity drained or pumped, whereas water from the Salton Sea requires pumping.

The North Lake Project will be covered by the NEPA EA being developed for the Phase I: 10-Year Plan. Next steps for the project in 2023 include completion of environmental permitting, securing land access and water supply.

2.2.6 SCH Expansion Project (approximately 7,000 acres of aquatic habitat)

The goal of this project is to create aquatic habitat downstream and adjacent to the SCH within the Aquatic Habitat Opportunity Area described in the NEPA EA (**Figure 12**). Portions of this area are underwater but are expected to become exposed as the elevation of the Sea declines. Construction of additional berms would provide additional aquatic pond habitat using the existing infrastructure constructed for the SCH project

Figure 12. SCH Expansion Project location with possible pond boundaries.



such as pumps and the weir. The SCH Expansion Project will be covered by the NEPA EA being developed for the SSMP Phase I 10-year Plan.

In 2022, The SSMP Team prepared a project description containing the conceptual design for this project. Because the expansion will be designed consistent with the SCH with low berms that create aquatic pond habitat for piscivorous birds, the ponds will contain both nesting and loafing islands, with the possibility of floating islands that can moved as needed to desired locations.

The target acreage of the project will depend on the desired salinity levels in the ponds. In the pond system, the lowest salinity occurs at the brackish water/saltwater mixing chamber near the New River Intake. The highest salinity occurs at the outflow of downstream ponds. By using 120,000 acre-ft of annual diversion from the New River, which includes the current 60,000 acre-ft of water right and the additional newly applied 60,000 acre-ft of water right, the estimated project acreage for different salinity levels ranges from 5,000 acres (40 parts per thousand [ppt] salinity) to 6,700 acres (70 ppt salinity). The ponds will be constructed adjacent to and following the boundaries of the SCH Project.

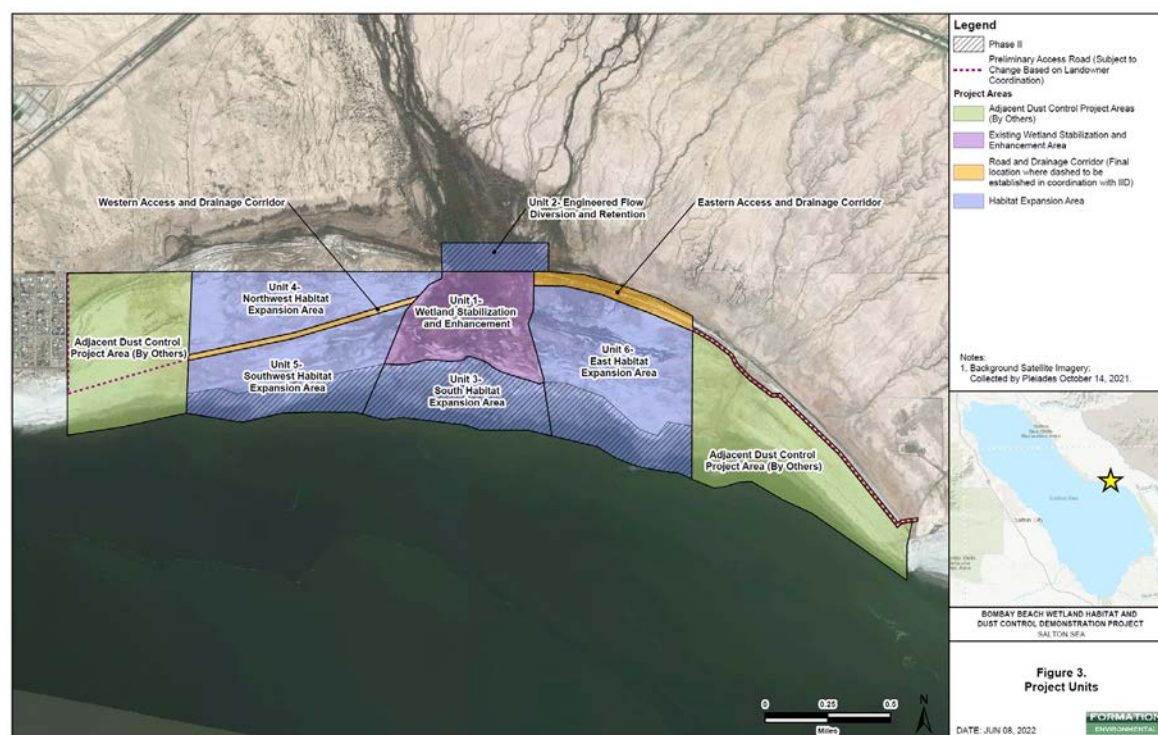
In 2023, design for the SCH expansion will continue and the SSMP Team will continue to process permits.

2.2.7 Audubon Bombay Beach Wetland Enhancement Project (832 acres)

The SSMP Team is coordinating with Audubon to advance the Bombay Beach Wetland Project which aims to stabilize, preserve, and enhance an existing emergent wetland over 832 acres adjacent to the community of Bombay Beach (**Figure 13**). As the Sea's elevation has declined, water from a confluence of surface water flow and groundwater discharges have created wetlands along the exposed lakebed that provide habitat for waterbirds, including shorebirds and

rails, and desert pupfish. However, under natural conditions, these habitats tend to drain and dry out. Tamarisk, a non-native shrub, has invaded the upslope areas, consuming large amounts of the available water and degrading the habitat quality. An opportunity exists to stabilize and enhance these existing habitat areas, and to divert and disperse water for additional aquatic and wetland habitat creation. The Project is being included for analysis in the EA being developed for the SSMP Phase I: 10-year Plan.

Figure 13. Audubon Bombay Beach Wetland Restoration Project (source: Audubon California, 2022).



In 2022, a project description for the project was developed (Audubon California, 2022). The project description includes flow estimates for surface water sources, which consist of ephemeral stormwater runoff and perennial flow from upstream discharges. Each of the project's eight units (six habitat units and two access and drainage corridors, see **Figure 13**) was further described, including information about existing vegetation, pupfish habitat considerations, and proposed construction activities. The project description also includes project phasing information, adaptive management considerations, and operation and maintenance activities. Community access is a priority for both Audubon and the local community, who Audubon has engaged through community meetings and surveys. Audubon will incorporate community access features into the project design based on feedback received from the local community.

This project is an example of a partnership, with Audubon continuing to lead the effort on design and funding and the State Team assisting with permitting the project and collaborating on the process to secure land access.

In December 2022, the Audubon project became the first SSMP project to receive a CEQA statutory exemption for restoration projects. The Director of the CDFW concurred with CNRA that the Bombay Beach Wetland Enhancement project meets the qualifying criteria for the exemption, as set forth in subdivisions (a) to (d), inclusive,

of Public Resources Code section 21080.56. The concurrence signifies the continued commitment by CDFW and its partners in advancing the "Cutting the Green Tape" initiative, which is a collaborative effort to increase the pace and scale of restoration projects in California in a way that protects the environment and results in long-term net benefits to climate resiliency, biodiversity, and sensitive species recovery. CDFW's concurrence is posted on the CDFW website as provided by Public Resources Code section 21080.56.

While Audubon will lead the project implementation, important steps are expected in 2023 as follows:

- Audubon to apply for additional funding
- Design and land access agreements developed
- Permitting initiated

2.2.8 Imperial Wildlife Area Wister Unit Marsh Bird Habitat Restoration Project (Approximately 150 acres)

A bird habitat restoration project is proposed for development at the Wister Unit of the Imperial Wildlife Area. The area has historically been operated for waterfowl and other wildlife. The area has a series of reservoirs and ponds that gravity flow from east to west and are managed by the CDFW. The project envisions ponds that may support wetland species such as Ridgway's rail, black rail, other secretive marsh birds and other avian species. There may also be an

opportunity to include a desert pupfish pond. The project may include invasive species removal, walking trails, interpretive signs, and a viewing platform to support recreational use of the marsh. Land access is not required at this site because this is part of a CDFW wildlife area.

The three project components are the following:

- Wetland Restoration – Unit Y16: This area was historically operated as waterfowl ponds but has been fallowed due to an overgrowth of invasive vegetation associated with berm renovation needed to address chronic berm leakage. Restoration of this area would result in enhancing habitat quality to support waterfowl and marsh birds that are being displaced as the Salton Sea shoreline recedes. In addition, the inclusion of a walkway or path would provide additional opportunities for public engagement and recreation.
- Wister Unit - Invasive Vegetation Removal: Invasive species line most drains and ponds in the area and consumes a disproportionately large amount of water, thereby reducing the amount of water available downstream to enter the Salton Sea and/or future projects. Removal of tamarisk and phragmites will result in an increase in both habitat quality and water availability.
- Greenhouse Facilities: Construction of a greenhouse with an associated outdoor hardening off growing ground, seed collection, and seed storage facilities would

greatly support restoration work on the Imperial Wildlife Area and improve the State’s capabilities to implement SSMP projects by providing a local, state-managed capability for growing native plants.

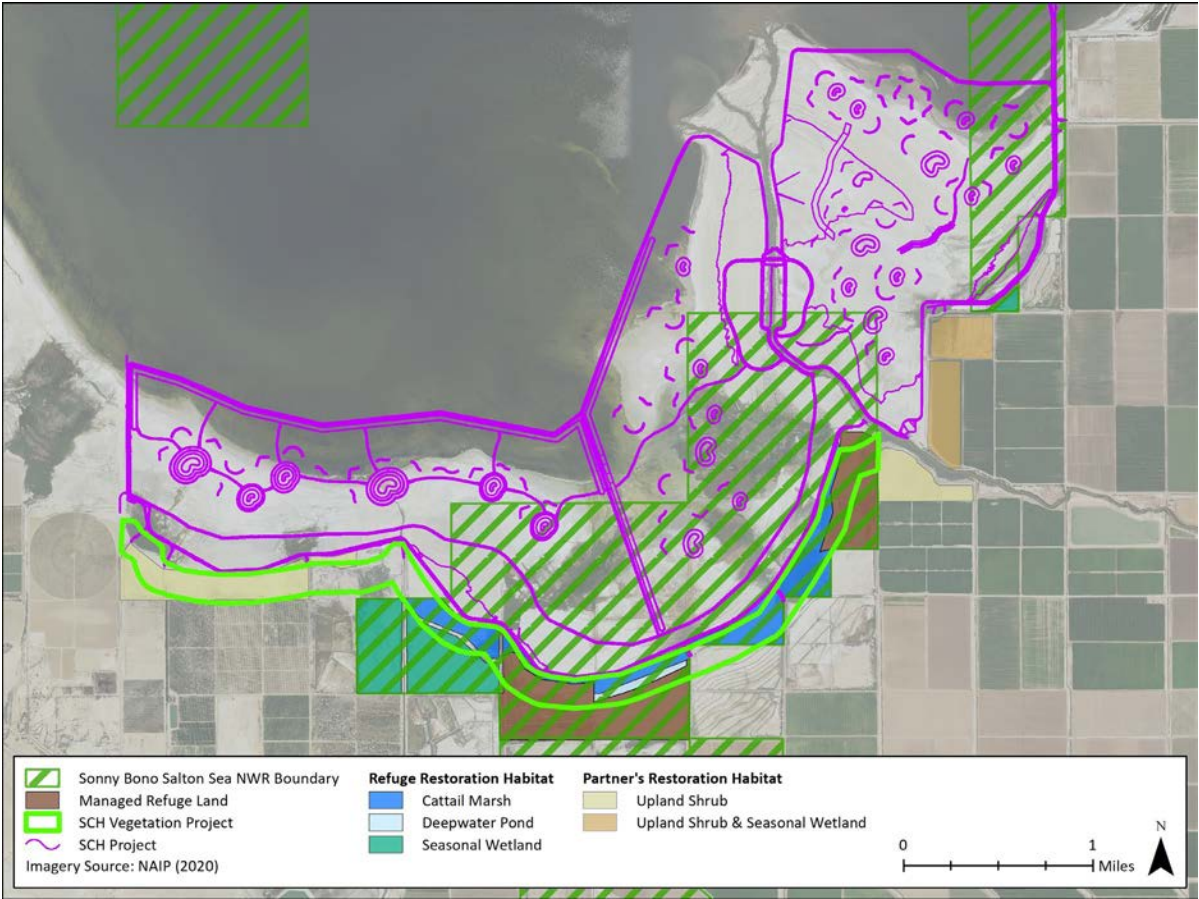
In the fourth quarter of 2022, the initial planning began. The planning identified survey, design, and other logistical needs. Next steps in project implementation include drafting the conceptual project design. Construction of this project is anticipated to begin in 2024.

2.2.9 SCH Vegetation Project (approximately 600 acres of vegetation enhancement/dust suppression)

This vegetation project is envisioned to cover 600 acres south of the current footprint of the SCH project and to serve as a buffer between aquatic habitat and the agricultural lands and duck clubs south of SCH (**Figure 14**). The proposed project includes the development of wetland and upland vegetated habitat across the project area, with vegetation type dependent on the elevation of individual parcels and the water source and quantity available. **Figure 14** shows potential habitat types at the project site, including duck clubs, cattail marshes, seasonal wetlands, and deep-water ponds.

In 2022, the SSMP Team developed the project description for the SCH Vegetation Project, which facilitated meetings with agency partners to

Figure 14. SCH Vegetation Project site location and potential habitat types.



discuss the project habitat goals, layout, water sources, and the types of vegetation to be targeted. The project description will also support the next steps in land access and permitting. This project will be covered by the NEPA EA being developed for the Phase I Plan.

Next steps in developing this project include:

- Develop conceptual and detailed design in early 2023
- Construction of the project is planned in early 2024

2.3 Non-SSMP Project Updates

Additional major restoration work, largely independent of SSMP Team staff or resources, continues to be performed by partner organizations while also benefiting the Salton Sea environment. Some key projects are noted below.

2.3.1 Quantification Settlement Agreement Mitigation Implemented by IID

As part of the Quantification Settlement Agreement (QSA) water transfer, IID is required to implement environmental mitigation for QSA environmental impacts. Important projects related to this include marsh habitat creation (Managed Marsh), burrowing owl conservation, desert pupfish refugium and monitoring, and the Salton Sea Air Quality Mitigation Program. The habitat goals for the Managed Marsh include 959 acres of aquatic habitat, including 341 acres of non-emergent vegetation and 618 acres of open water/emergent vegetation. This goal was met in 2021 and more than 1,000 acres of marsh have been created for species that would otherwise have used the drain and canal systems for habitat. The burrowing owl conservation program includes periodic population studies and pre-inspection surveys to mark potential burrows before operation, maintenance or construction activities occur within IID's irrigation and drainage system. The desert pupfish refugium was built in 2010 and stocked in 2015,

and ongoing monitoring of pupfish use of direct-to-sea drains for pupfish occurs annually. The Salton Sea Air Quality Mitigation Program has the goal of identifying and mitigating dust emissions from exposed Salton Sea lakebed. This program has been operational since 2016 and includes an annual monitoring program, preparation of annual reports identifying dust control activities, as well as implementation of proactive dust control measures to prevent specific project sites from becoming emissive. This approach allows effective use of resources to help protect the public health of communities near and around the Salton Sea. In 2022, IID completed the installation of the first deep groundwater well (300+ ft below ground surface) for Salton Sea vegetation projects at its Clubhouse site in Salton City, and began drilling 3 shallow wells (160+ ft below ground surface) in December 2022. Additional information about QSA environmental mitigation can be found at www.iid.com/water/library/qa-water-transfer/mitigation-implementation.

Funding for the implementation of QSA environmental mitigation activities is from the QSA Joint Powers Authority, and is comprised of designated representatives from California Department of Fish and Wildlife, Coachella Valley Water District, IID, and San Diego County Water Authority. Additional information about the QSA JPA can be found at www.qsajpa.org.

2.3.2 Torres Martinez Wetland and Vegetation Restoration Projects

The Torres Martinez Desert Cahuilla Indians has a goal of preserving and enhancing desert habitat around the Sea, and of re-developing, expanding and upgrading Tribal lands for the benefit of Tribal members and area residents. Several projects are being designed and implemented in support of these goals. One of these projects is a restoration and wetland rehabilitation project on Tribal land near the mouth of the Whitewater River (a similar wetlands project on the site was constructed in 2003 but destroyed by a major flood in 2012).

This rejuvenated project will remove invasive species such as tamarisk from existing holding ponds, construct swales to retain water flow, construct raised plant beds and distribute compost material to allow native plant life to be restored; the vegetation traps toxic soil particles and further reduces dust emissions for surrounding communities.

Additional revegetation projects at other locations along the Sea are also being envisioned by the Torres Martinez Tribe to reduce dust emissions on barren lands, and to provide habitat for fish and birds. Several endangered, threatened and sensitive species, such as desert pupfish, eared grebe, and black skimmer inhabit the area and would benefit from restoring habitat that has been lost as the Sea recedes.

Furthermore, the Wetland project has three main features: water treatment, fresh and brackish habitat wetlands, and surface stabilization of sediments. First the subsurface vertical flow wetland treats Whitewater River flows for sediments, nutrients, and pesticide/herbicide residues. The treated water is then introduced into freshwater habitat wetland, and finally blended with Salton Sea water to create an additional shallow saline habitat for shorebirds. Water to fill the wetlands is pumped from groundwater and the nearby Whitewater River, which is infiltrated by agricultural drainage canals and runoff from the western portion of the Coachella Valley.

The Torres Martinez Wetlands project is part of the State of California's Salton Sea Management Program, Phase 1 10-Year Plan (10-year Plan). The Torres Martinez Desert Cahuilla continue to be actively working with the Salton Sea Authority to revitalize the Salton Sea in consultation and cooperation with state and federal governments.

2.3.3 New River Improvement Project

The New River contains untreated wastewater and other pollutants from Mexico as it flows north through the City of Calexico before emptying out into the Salton Sea. This polluted waterway is a threat to human health and ecosystems and limits economic development in the Imperial Valley. To address this long-standing problem, a

project has been conceived that will encase the New River polluted water in the Calexico area, minimizing direct or indirect human contact. The project also includes an automated trash screen for the river downstream from the United States-Mexico International Boundary to remove solid waste. Furthermore, the project will also reroute treated and disinfected wastewater from the Calexico treatment plant to restore flow in the river channel through the city to maintain floodplain wetlands and improve water quality. The New River Improvement Project is being funded with approximately \$28 million from state funds.

2.3.4 Middle Salt Creek Tamarisk Removal

The Living Desert Zoo and Gardens (based in Palm Desert, California) has begun a project to remove invasive tamarisk trees across the middle reaches of Salt Creek, within Riverside County. The tamarisk removal activities reduced shading of the water and water consumption at the stream to improve habitat quality for Desert Pupfish. Revegetation of native plant species is also expected to enhance the riparian habitat for other native species and thus limit future tamarisk growth. The project was terminated in 2022 after successful restoration of 9.8 acres. A few selected tamarisk trees were left temporarily to provide some shading for desert pupfish during the extremely hot summer months.



VEGETATION ENHANCEMENT AND DUST CONTROL
MEJORA DE LA VEGETACIÓN Y CONTROL DE POLVO

Salton Sea Management Program El Programa de Gestión del Salton Sea



Photo 1: Hay pile at the Salton Sea. Photo 2: Hay pile at the Salton Sea.

Phase 1: Placement of green hay mulch
Phase 2: Placement of green hay mulch
Phase 3: Placement of green hay mulch
Phase 4: Placement of green hay mulch
Phase 5: Placement of green hay mulch
Phase 6: Placement of green hay mulch
Phase 7: Placement of green hay mulch
Phase 8: Placement of green hay mulch
Phase 9: Placement of green hay mulch
Phase 10: Placement of green hay mulch



3 Partnerships

Partnerships with the community, Tribal governments, local, state, and federal agencies, and other interested parties are crucial to help fulfil the goals of the SSMP. The SSMP Team is working with partners to pursue available funding sources; develop projects; share data; improve community engagement, outreach, and involvement; and streamline planning and approval processes. In addition, the team is collaborating with partners to develop templates for land access, water availability, and public access opportunities and other elements key to the success of the SSMP. The SSMP Team has also engaged with partners to address scientific data gaps and identify priorities that were incorporated into a MIP for the SSMP, completed in 2022. Based on these partnerships, the SSMP Team can bring together multiple interested parties and regional leaders to support the work of the different committees advising the SSMP, notably the Community Engagement Committee, the Long-Range Planning Committee (LRPC), and the Science Committee.



3.1 Audubon California

The SSMP Team has continued to partner with Audubon California to address data gaps and develop new projects. Audubon California has continued to conduct monthly shoreline surveys. They have collaborated with the SSMP during the development of the Salton Sea MIP and helped identify strategies to streamline data sharing between SSMP partners. In addition, the SSMP Team has been working with Audubon California to support the 800-acre Bombay Beach Wetland Project, which would suppress dust while also creating managed wetland habitat on the east side of the Sea (additional details on this project are provided in Chapter 2).

In summer 2022, Audubon California led a community engagement process funded by the Bureau of Reclamation to elevate local needs tied to recreational habits, desired amenities, and desired future activities at the Sea. In a community access survey, Audubon collected feedback from 631 adult residents near the Salton Sea in English and Spanish over the phone and online. Additionally, 41 adult Purépecha residents were interviewed in the indigenous Purépecha language. Key findings from this study will be integrated to Audubon's Public Access Landscape Suitability Analysis, anticipated for release in summer 2023, and part of the Community Needs Strategy's section on outdoor recreation recommendations.

3.2 Bureau of Land Management

BLM is a cooperating agency in preparing the EA for the Phase I: 10-Year Plan. The State will continue to coordinate with BLM when projects are being designed and implemented on BLM land. Also, a portion of the ongoing SCH Project is being constructed on BLM land. The SSMP is also helping to coordinate with BLM on the North Lake Pilot Project to develop temporary access agreements for surveys and preconstruction work.

3.3 California Air Resources Board

The California Air Resources Board (CARB) is an active participant in vegetation enhancement, dust suppression projects, performance monitoring, and air quality monitoring activities with the SSMP's Air Quality Team. CARB staff helped in the preparation of the air quality monitoring plans and reports. On an ongoing basis, CARB staff are working with the SSMP Team to identify and review dust control strategies and monitoring requirements at individual project sites.

3.4 Coachella Valley Water District

The CVWD, which owns land along the northern shore of the Sea, as well as drains with inflows into the Sea, is an SSMP Team partner and has provided access to the team to install air quality monitoring equipment at four sites to evaluate the potential for dust emissivity. The State will continue to work with CVWD as projects planned along the northern shore are advanced in 2023 and beyond. CVWD was an integral partner and

Briefing to Colorado River Basin Regional Water Quality Control Board staff before tour of SCH, October 2022.



signatory in developing the December 2022 Salton Sea Commitment Agreement.

3.5 Colorado River Basin Regional Water Quality Control Board

The construction or operation of some SSMP projects may impact water bodies that are regulated by the Colorado River Basin Regional Water Quality Control Board (CRBRWQCB). This may include direct discharges of pollutants (regulated by the National Pollutant Discharge Elimination System or NPDES permit) or stormwater discharges from project areas (requiring a Stormwater Pollution Prevention Plan or SWPPP). Necessary applications have been filed with the CRBRWQCB. A permit modification request for SCH was submitted in the fall of 2022

with the expectation that a permit would be issued in early 2023.

The SSMP Team continued coordination with CRBRWQCB to discuss SSMP program milestones and progress, upcoming permit needs, and to provide input into CRBRWQCB planning processes. A regular standing meeting continued through 2022 to provide ongoing collaboration for project permitting and implementation and has led to a more efficient permitting process. The SSMP provided updates to the CRBRWQCB and accompanied staff and board members on a detailed tour of the SCH project in early October 2022.

3.6 Imperial Irrigation District

The SSMP Team and IID have been collaborating on a broad range of Salton Sea management priorities, including the SCH Project, land access

permits and agreements, dust suppression project planning and implementation, air quality monitoring, biological monitoring, data management strategies, and public engagement. IID was an integral partner and signatory in developing the December 2022 Salton Sea Commitment Agreement.

In support of DWR's groundwater well drilling activities (see Section 2.2.2), IID has shared geologic, water quality, and well yield data collected from a similar well drilled by IID near the Clubhouse site in early 2022.

In addition to collaborating on projects, IID has been supporting the SSMP Team with biological monitoring and developing an approach for sharing data among interested parties. CDFW, IID, and other partners have been cooperating to develop a pupfish interconnection plan that will be implemented around the Salton Sea and may eventually be integrated into SSMP projects.

The SSMP Team worked with IID to develop an easement for land access to develop vegetation enhancement and dust suppression projects. This easement is pending final execution.

3.7 Imperial County

Imperial County and the SSMP Team have significant and complementary interests regarding the development and enhancement of activities that restore the Salton Sea ecosystem. Imperial County has sought to assist the SSMP Team with its restoration goals by soliciting Statements of Interest from local landowners

willing to implement dust suppression projects on their property.

The SSMP Team organized regular interagency meetings on the Desert Shores Channel Restoration Project which includes Imperial County and the SSA. Imperial County has taken a lead role in CEQA compliance and in developing a hydrologic analysis for groundwater availability for the project. Imperial County has been an invaluable partner in furthering the Desert Shores Channel Restoration Project. Imperial County also serves as a co-chair of the SSMP Community Engagement Committee with Alianza Coachella Valley. In this role, the County and Alianza Coachella Valley assist the SSMP Team with scheduling, developing agendas, reviewing materials and presentations, and meeting facilitation.

The SSMP Team recognizes that partnership with local agencies could provide substantial public benefits and will continue to coordinate with Imperial County to identify lands and projects that may be eligible for funding opportunities.

3.8 Imperial County Air Pollution Control District

Imperial County Air Pollution Control District (ICAPCD) is a key partner for the SSMP Team in implementing projects around the Sea. ICAPCD has regulatory authority over the contribution or control of anthropogenic fugitive dust emissions in the Salton Sea region within Imperial County. Dust suppression projects located within ICAPCD's jurisdiction are subject to its

regulations. In July 2020, CNRA and the ICAPCD signed a Memorandum of Understanding (MOU) documenting their intent to coordinate and collaborate on the Desert Shores Channel Restoration Project described in Chapter 2. The project proposes to refill channels located between residences on the Salton Sea shoreline in the disadvantaged community of Desert Shores to provide habitat and air quality benefits. Under the MOU, CNRA will analyze and document the project's public benefits as part of the NEPA EA for the Phase I: 10-Year Plan and as required for funding under the SSMP.

Throughout 2022, there were regular senior level meetings between CNRA, ICAPCD, and Imperial County to coordinate over major project needs, including the Desert Shores Channel Restoration Project and vegetation enhancement projects being implemented on Reclamation lands. Furthermore, ICAPCD staff serve as members of the LRPC and MIP Working Groups.

3.9 Natural Resources Conservation Service

The Natural Resources Conservation Service (NRCS) is a cooperating agency developing the NEPA SSMP 10-year Plan EA. In 2022, the SSMP Team developed a Draft Watershed Plan as an appendix in the NEPA Draft EA. NRCS will use the appendix to develop a more focused supplement covering the Watershed Plan technical requirements for the National Watershed Program Manual. The NRCS led activity is expected to

begin in 2023 and will identify specific projects and the budget for planning and implementation that will be available to the SSMP. The funding can be applied to projects on Tribal lands and non-federally owned lands. CNRA will remain the Local Sponsor Organization.

3.10 Riverside County

The SSMP Team continues to meet regularly with the County of Riverside to coordinate project and planning priorities related to projects at the northern end of the Salton Sea. The SSMP Team assisted the County of Riverside and SSA with the review of the four project alternatives for the North Lake Demonstration Pilot Project, in the selection of a preferred alternative, and in the selection of suitable water supply sources. More information about the project can be found in Chapter 2. The project is planned as the initial phase of a larger North Lake concept. The North Lake concept is part of the EA document being developed for the SSMP.

3.11 Salton Sea Authority

The SSA is a Joint Powers Authority with a focus on protecting human health and revitalizing the environment and economy of the Salton Sea. The SSA's board members represent five of the major interested parties at the Sea: the Coachella Valley Water District, County of Imperial, County of Riverside, IID, and Torres Martinez Desert Cahuilla Indians. This representation makes the SSA uniquely positioned to assist in planning and implementation of the SSMP.

CNRA and the SSA have signed an MOU outlining how the parties will coordinate and consult to support the broader goals of Salton Sea restoration and the SSMP. The MOU contemplates continued close coordination between the SSA and the SSMP to ensure prompt communication of local priorities to CNRA through the SSA, as outlined in the MOU, and to seek out federal funding opportunities for projects that will help restore the Sea. CNRA staff hold regular standing meetings with SSA, serve as ex officio members on the SSA Board, provide monthly updates at Board meetings, and coordinate on planning, funding, and public outreach.

Consistent with the MOU, in 2022 CNRA entered into an Agreement with SSA aimed to enhance and promote community participation and engagement using different strategies through different tasks. Through the implementation of this Agreement, SSA will perform 1) outreach and engage community members and other partners of the Salton Sea Region, 2) coordinate and engage with educational institutions, and 3) work with Community Based Organizations (CBOs) to engage and solicit input around community amenities from frontline communities unable to attend SSMP meetings online, using meaningful "in-community" engagement within identified subregions around the Salton Sea.

As noted in Chapter 2, the SSA is leading the North Lake Demonstration Pilot Project, working with Riverside County. The North Lake

Demonstration Project received \$19.25 million to plan, design, and implement the approximately 160-acre lake in partnership with the State and Riverside County.

The Corps, the DWR, and the SSA signed a cost-share agreement in December 2022 to launch the *Imperial Streams Salton Sea and Tributaries Feasibility Study*, aimed at identifying potential ecosystem, flood-risk management, or other land- and water-resource projects and actions for the long-term restoration of the Sea. The Feasibility Study will officially begin after LRP review concludes in March 2023. The Feasibility Study is a necessary step to complete the NEPA and CEQA processes on the long-term restoration of Salton Sea. The study is anticipated to take at least three years to complete.

3.12 South Coast Air Quality Management District

The South Coast Air Quality Management District (SCAQMD) has regulatory authority over the contribution or control of anthropogenic fugitive dust emissions in the Salton Sea region within Riverside County. Dust control projects located within SCAQMD's jurisdiction are subject to applicable Air District Rules and Regulations. The SSMP Team coordinated with the SCAQMD during the development of the DSAP, especially related to project areas in Riverside County. SCAQMD was an active part of the MIP working group. The State works collaboratively with the

SCAQMD prior to project construction and has coordinated with them on monitoring station locations in their jurisdiction.

3.13 Torres Martinez Desert Cahuilla Indians

The Torres Martinez Desert Cahuilla Indians have ancestral lands in the Salton Sea area and are a major landowner along the northern shore of the Salton Sea in the vicinity of the Whitewater River.

On March 16, 2022, Torres Martinez Desert Cahuilla Indians hosted Southern California Native American Tribes, CNRA, SSMP, DWR, CDFW, and the CEC for an inter-tribal roundtable discussion on the Salton Sea. During this roundtable, Tribal and state leaders discussed partnerships and opportunities for restoration and conservation projects in and around the Salton Sea and Eastern Coachella Valley and the State's efforts regarding the development of renewable energy, lithium, and geothermal resources.

On November 4, 2022, with the assistance of the Torres Martinez Desert Cahuilla Indians, a joint Tribal meeting was held with Tribal governments for the SSMP to provide an update on the development of LRP including the restoration concepts and the concept evaluation criteria. Tribal feedback and comments compiled during the meeting were incorporated into the LRP, mainly relating to acceptability criteria. Based on feedback, more information is needed to analyze the concepts. Primarily, site-specific information is needed to evaluate potential impacts to the

access and protection of natural resources, cultural resources, and Tribal cultural resources and landscapes. Informational meetings related to the LRP and the U.S. Army Corps Feasibility Study will continue throughout 2024.

As an important partner in the region, CNRA is committed to regular government-to-government consultation and partnership with the Torres Martinez Desert Cahuilla Indians Tribe on all projects impacting the Salton Sea. Initial conversations on potential partnerships on northern shore projects have begun, and the State looks forward to working with the Tribe to implement projects to support their priorities and gather field data to help evaluate potential alternative approaches for dust suppression. The State plans to work with the Tribe to identify collaborative projects to expand on existing restoration work on exposed lakebed that is being funded by the Coachella Valley Mountains Conservancy. Tribe members are also represented on the LRPC and the Engagement Committee.

3.14 Government-to-Government Consultations and Partnership with California Native American Tribes

CNRA, DWR, and CDFW are all committed to meaningful and timely consultation with all California Native American Tribes with ancestral ties to the Salton Sea area. The CNRA Tribal Consultation policy requires the SSMP to provide Tribes with an opportunity for government-to-government consultation early in project

planning and development to ensure Tribal input is considered and cultural resources are protected.

CNRA initiated a formal government-to-government consultation process with 25 Tribal nations that may be affected by projects described in the DSAP and completed the consultation process in July 2020. CNRA's goal is to better understand Tribal priorities, interests, and concerns early in the development of SSMP-related plans and conceptual SSMP projects. Throughout the implementation and operation of SSMP projects, CNRA remains committed to meaningful consultations and development of partnerships with Tribes with interests and concerns with SSMP projects.

In addition to the early project planning consultation, the Corps is leading Tribal Consultation for the Section 106 compliance for the EA. The SSMP team as well as the federal cooperating agencies were invited to participate in the consultations. In 2023, Tribal consultation for the EA will be completed.

3.15 U.S. Army Corps of Engineers

The Corps and DWR entered into an agreement under the Water Resources Development Act to facilitate funding of the NEPA process as well as permitting for SSMP projects. The Corps is the lead agency on the preparation of the NEPA EA; the draft document was released in June 2022. The Corps has continued to prioritize development of the EA and engaged the federal cooperating

G. Patrick O'Dowd (SSA), Col. Julie Balten (U.S. Army Corps of Engineers), and Cindy Messer (California Department of Water Resources) sign documents during the Imperial Streams Salton Sea Feasibility Cost-Share Agreement Signing Ceremony at the North Shore Beach and Yacht Club in Mecca, California in December 2022.



agencies and SSMP Team in regular meetings to further the NEPA and permitting process.

Corps staff are also working closely with the SSMP Team to prioritize project review and issue permits. The most recent were Nationwide Permits to support the vegetation enhancement projects. In addition to staff-level meetings, there is also senior-level coordination between the Corps and CNRA to advance Salton Sea project goals.

The Corps, the Department of Water Resources, and the SSA signed a cost-share agreement in

December 2022 to launch the *Imperial Streams Salton Sea and Tributaries Feasibility Study* aimed at identifying potential ecosystem, flood-risk management, or other land- and water-resource projects and actions for the long-term restoration of the Sea. The Feasibility Study will officially begin after LRP review concludes in March 2023. The Feasibility Study is a necessary step to complete the NEPA and CEQA processes on the long-term restoration of Salton Sea. The study is anticipated to take at least three years to complete.

3.16 U.S. Bureau of Reclamation

The SSMP Team meets regularly with Reclamation to advance the implementation of the vegetation enhancement projects described in Chapter 2. The SSMP has obtained land access agreements with Reclamation to develop and implement habitat and dust suppression projects on up to 1,700 acres at Clubhouse, West Bombay Beach, and Tule Wash. As these projects are implemented, the State plans to develop additional project areas on Reclamation lands, notably, as associated with the San Felipe Fan (identified in Chapter 2).

Under the Salton Sea Commitment Agreement, signed in December 2022, the Bureau of Reclamation will provide \$22 million in new funding through 2023 to implement projects at the Salton Sea, fund staff support at the Torres Martinez Desert Cahuilla Indian Tribe, and conduct research and management to aid project implementation. If IID and CVWD follow through on Colorado River projects that would ultimately further reduce their use of Colorado River water, Reclamation will provide an additional \$228 million over the next four years to expedite Salton Sea projects.

The SSMP Team worked with Reclamation to amend the funding agreement to support implementation of dust suppression and vegetation enhancement projects. The funds will be used to research, implement, and monitor various options to mitigate dust emissions that

originate from the exposed lakebed. DWR will lead this effort and will coordinate with the appropriate state, federal, and local agencies and other interested parties to plan and implement dust suppression projects at the Salton Sea. The grant provides a framework for how state and federal funds can be leveraged to provide additional public health and environmental benefits at the Sea.

3.17 U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (USFWS) operates the Sonny Bono Salton Sea National Wildlife Refuge in Imperial County. USFWS partners with the SSMP Team on monitoring, information sharing, and desert pupfish relocation as part of the SCH Project and on developing the SCH vegetation projects that are adjacent to USFWS refuge lands. The USFWS also plays a key regulatory role for all SSMP activities that may affect federally endangered species at the Salton Sea. The USFWS is also a cooperating agency in preparing the EA for the Phase I: 10-Year Plan. USFWS staff serve on the LRPC, the MIP Working Group, and chair of the Science Committee. The USFWS is also an active member of the QSA Implementation Team and participates in quarterly meetings. The QSA Implementation Team is responsible for implementing the mitigation requirements of the QSA water transfer.

California Department of Fish and Wildlife staff member releases collected pupfish near the Salton Sea in Imperial County, California.



Continuing through 2022, a working group was formed with participants from the USFWS, CDFW, U.S. Geological Survey (USGS), DWR, University of Idaho, and Reclamation. The purpose of the working group is to discuss the current selenium research and the various construction/proposed projects affecting the marshes around the

Salton Sea. A priority for this group is to identify risks, constraints, and opportunities for wetland enhancement and restoration around the Sea. This effort will also help create comprehensive documents to identify research needs and results, as well as standard protocols for data collection.



4 Community Engagement

The SSMP Team continued to place a strong focus on community engagement throughout 2022. The SSMP Team continued to seek to develop and actively maintain an engagement program that enables consistent open lines of communication in order to be intentional at serving and engaging the frontline communities of the Salton Sea region, creating opportunities for community members to share concerns and provide input, and ultimately contribute to the delivery of projects that improve conditions for communities around the Salton Sea.



The SSMP Community Engagement Committee serves as the hub and primary venue to plan engagement activities and identify best outreach and involvement strategies for SSMP public events this includes coordination with the SSMP Long-Range Planning and the Science committees. The Community Engagement Committee consists of representatives from community-based organizations, stakeholder groups, local leaders, governmental agencies, and Tribal governments. It enlists leaders of local community groups and NGOs to help guide SSMP engagement efforts, reach community members through varying communications channels, and increase community engagement in SSMP planning activities.

4.1 Community Engagement Committee Charter and Engagement Schedule

The Community Engagement Committee advises and assists the State in engaging local communities and other interested parties to inform and solicit meaningful input regarding health, air quality, environmental, and social aspects of SSMP projects, for the State to integrate into the Phase 1: 10-year Plan and long-range planning for the Salton Sea. The Committee's Charter lays out its advisory role, its composition, and how the Committee

SSMP Community Meeting in Calipatria, December 2022.



is determined to being inclusive of all by implementing accepted principles underlying equity and environmental justice.

The Charter identified the need to create subgroups to further support the efforts of the Community Engagement Committee. In 2022, two groups were created with the support of the Committee Cochairs and the support of interested committee members to become active members of these subgroups:

- The Annual Review Working Group meets to 1) review the Community Engagement Charter to identify and recommend updates to the State, 2) review existing membership to identify any gaps in representation within the membership including their respective networks, 3) allow existing members to choose whether they can or would like to continue serving on the Committee, and 4) evaluate the Chairs composition and their selection.

- The Outreach Working Group meets to 1) coordinate engagement opportunities and event promotion, 2) develop agendas together, 3) support during public community meetings, and 4) make recommendations to the SSMP for meaningful outreach and engagement.

4.2 Engagement Activities

Public engagement through virtual meetings has occurred as a part of all major ongoing SSMP activities. Over the past year, the SSMP Team has been involved in the following engagement activities (see **Figure 15**):

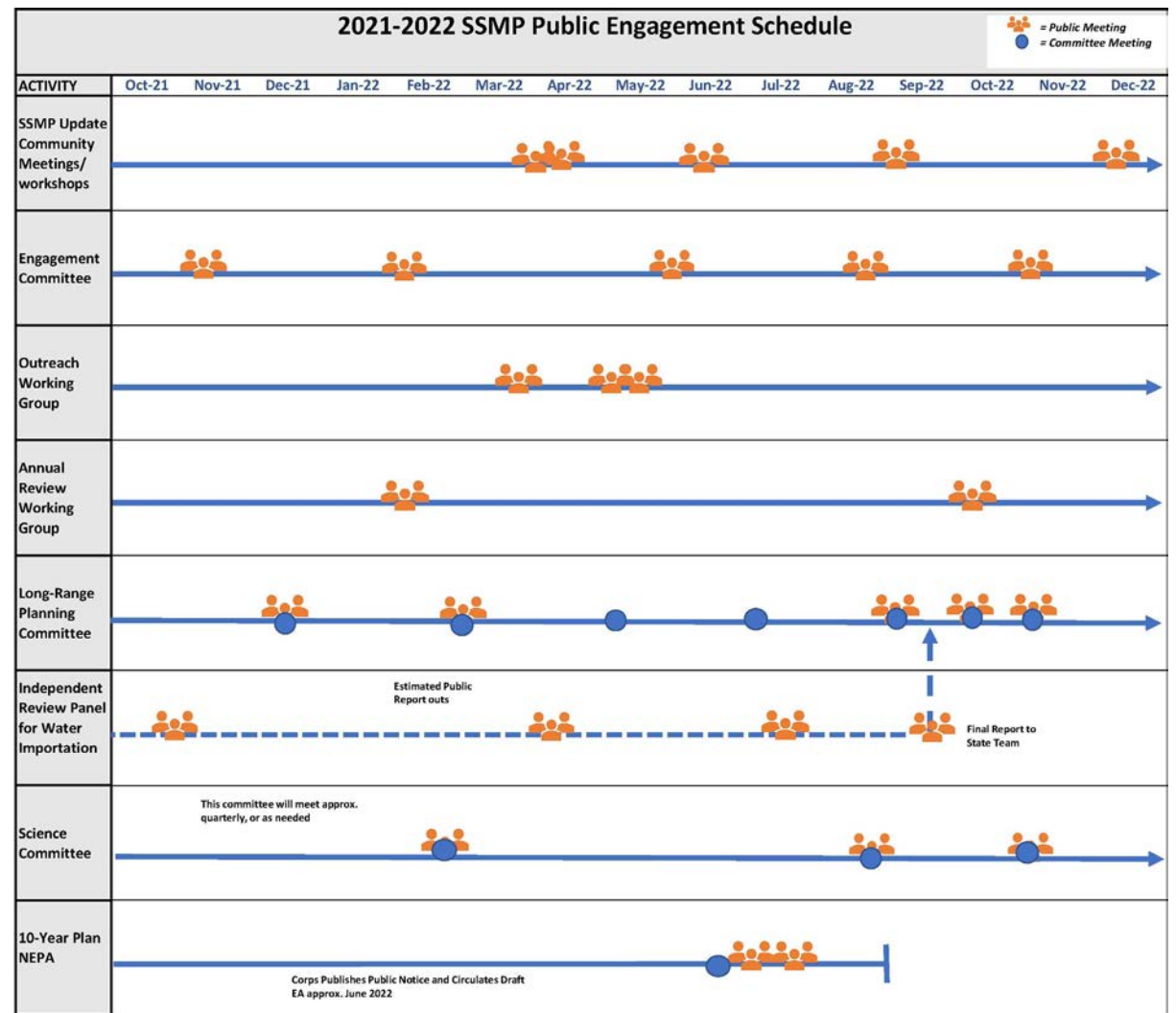
- SSMP Update Community Meetings
- Community Engagement Committee Meetings
 - Outreach Working Group Meetings
 - Annual Review Working Group Meetings
- LRP Committee Meetings
- NEPA EA
- IRP Meetings
- MIP Meetings
- SCH Project Outreach
- State Water Resources Control Board (SWRCB) Annual Workshop
- Science Committee Public Meetings

In addition, the SSMP Team members participated in and provided updates at various other regional meetings and forums, including the following:

- Monthly SSA Board meetings
- Quarterly QSA Joint Powers Authority (JPA) meetings
- CRBRWQCB SSMP update in October followed by SCH Tour
- North Shore community meeting in Summer hosted by Leadership Council
- Salton Sea Action Committee Meetings
- Salton Sea Summit
- Environmental Health Leadership Summit
- Coachella Valley Water Seminar
- Junta Comunitaria Resiliencia (Community Resilience Meeting) Salton Sea, ALIANZA Community
- IID Board Meeting
- IID's Agricultural Water Advisory Committee Meeting
- Desert Manager's Group Meeting
- Youth Organizing Council, ALIANZA
- Association of California Water Agencies (ACWA) Conference: Water Quality Committee
- California-Mexico Border Council

Based on feedback from the Community Engagement Committee, other interested parties, and the public, the SSMP Team continues to improve and increase the ways we plan and conduct outreach and engagement. The SSMP Team combines various outreach strategies and tactics with the goal of reaching more people and improving the accessibility and

Figure 15. Public engagement across different SSMP activities in late 2021-2022.



meaningfulness of our outreach and engagement work. As previously acknowledged, the COVID-19 pandemic limited our ability to organize in-person public meetings, and as a result, most meetings were held online. This was a challenge

for the SSMP because broadband internet can be limited or unreliable within the region. The SSMP Team worked with the Community Engagement Committee, partner organizations, local legislative representatives, faith-based groups, consultants,

Community engagement at Chapala Market in Thermal.



and others to help distribute meeting information online and directly within the region. This work included distributing information in English and Spanish on websites, social media, radio ads, television ads, and grassroots canvassing. This year in addition to conducting meetings on Zoom with the call-in option, the SSMP Team worked with partners to stream meetings on Facebook Live—a platform that could be better accessed within the region compared to Zoom. The SSMP Team is also intentionally considering other regional planning processes in its scheduling, to minimize conflicts and to enable the greatest possible attendance from interested parties.

The SSMP Team continues to update the program website, www.salttonsea.ca.gov, to provide information on SSMP projects and opportunities to offer input. The State also continues to share news and updates via the CNRA Salton Sea Management Program Update e-newsletter that debuted in November 2019. The Salton Sea Management Program e-newsletter provides information on project delivery, important program milestones, about the SSMP team, upcoming meetings, and opportunities for engagement. It also promotes opportunities for feedback and public comment periods. The SSMP e-newsletter is distributed through the CNRA Salton Sea electronic mailing list. You can register here to receive the SSMP e-newsletter by clicking [here](#).

Comité Cívico del Valle (CCV), a community-based organization, has a contract with the State to perform a Salton Sea community outreach, education, and engagement campaign. The objectives of this campaign are to provide outreach and education to local residents about Salton Sea conditions, solutions, and management, and to engage community members and encourage participation in the decision-making process through attending meetings and workshops. In 2022, CCV hosted its annual Environmental Health Leadership Summit. The Summit cultivates partnerships and advocates for environmental and health concerns in underserved communities within the Salton Sea Air Basin and throughout California. Members of the SSMP Team participated as part of a panel and gave an SSMP update as part of a workshop for this event. In early December, CCV, as part of this contract, supported the SSMP team to host a hybrid meeting in Calipatria. In this meeting, CCV provided an overview of the Salton Sea Community Outreach, Education, and Engagement program and the SSMP presented project updates as well as an update on the draft Long-Range Plan document.

4.3 SSMP Project Tracker Website

The SSMP Team initiated a project tracker website to provide more consistent and regularly updated information on project implementation. The Project Tracker plans to have maps, fact sheets, and information on each phase of the project. Users will be able to sort by project type, species benefits, and other data layers. The project was initiated in the fall of 2022 and should be available to the public in the first half of 2023.

4.4 Update on Local Salton Sea Presence

The SSMP Team increased its physical presence at the Sea by establishing a temporary, local Salton Sea Program office at the SCH site near Westmorland, California, in Imperial County in 2021. The office is used by SSMP staff to work or conduct in-person meetings near the Sea as needed. In 2022, the SSMP Team participated in person at various partnering and public meetings in the Imperial and Coachella Valleys. In December 2022, the SSMP hosted an in-person community meeting in Calipatria.

4.5 Contacting the SSMP Team

We encourage the public, community partners, Tribal governments, and other interested parties to get involved!

We encourage participation in many ways:

- Attend workshops and committee meetings: Most meetings are open to the public and are accessible virtually. There are updates on future meetings through newsletters, flyers, and announcements in traditional and social media.
- Communicate via email: Interested individuals can reach out by email at cnra-saltonsea@resources.ca.gov.
- Receive website updates and newsletter: Information on current and future updates is provided on the SSMP website: <https://saltonsea.ca.gov/>. Interested individuals may also [sign up](#) to receive regular email updates about the SSMP.



5 Planning

In 2022, the SSMP Team intensified its planning activities on three main fronts to continue its strategic vision for delivering dust suppression and habitat projects in the remaining years of the Phase I: 10-Year Plan.



- Environmental planning involved the preparation of the **Draft Environmental Assessment (EA) for the Phase I: 10-Year Plan** being developed with six federal agencies, which will provide comprehensive NEPA compliance and a permitting structure for additional Phase I projects.
- The SSMP Team continues the process to meet its commitment for long-term planning beyond Phase I through the development of the LRP. A **Draft Long-Range Plan** was submitted to the State Water Board in December 2022.
- The **Salton Sea Monitoring Implementation Plan (MIP)**, a regional-scale monitoring plan for the Salton Sea ecosystem, was completed in December 2022. The MIP was developed in collaboration with the SSMP Science Committee and multiple working groups, which included key Salton Sea experts and other interested parties in several resource areas like hydrology and water quality; air quality and geography (land cover); biological resources; socioeconomics; and data management.

The team also focused on the development of a Community Needs Strategy to identify core needs for Salton Sea communities. Vital needs identified by communities and addressed within this document include the following: equitable outdoor access, public health, workforce and

sustainable economic development, climate resilience, transportation, and broadband access.

This chapter also presents an overview of the current funding status and financial plan for the program. Additional planning efforts to enhance stakeholder engagement were described in Chapter 4 (Community Engagement).

5.1 Environmental Planning

The SSMP Team continues to work with the Corps and the federal cooperating agencies to complete the NEPA EA for the Phase I: 10-Year Plan. Public comments were received on the draft EA published in June 2022, and a revised final version is planned for release in Spring 2023. The resulting EA and permitting process will provide a framework for coordinating with all participating federal agencies and a streamlined approach for funding, land access, and permits.

This environmental document covers projects and activities such as creation of aquatic habitat at the Alamo, New, and Whitewater Rivers; the North Lake Pilot Demonstration Project; the Desert Shores Channel Restoration Project; the Audubon Wetland Restoration Project; and a variety of other dust suppression and habitat projects (**Figure 16**). As each project is designed, environmental planning and permitting is reviewed and any additional permits that may be needed are identified and applied for. Environmental planning was ongoing related to Clubhouse, Tule Wash, and West Bombay Beach.

Environmental planning is also identified and discussed with project partners such as Audubon, Imperial County, SSA, and Riverside County and occurs for the program and each project. Environmental planning is being conducted for compliance with federal and state laws.

5.2 Phase 2: Salton Sea Long-Range Plan

The SSMP Team prepared the draft LRP to comply with State Water Board Order WR 2017-0134 (Order). Condition 26 of the Order required the CNRA to issue a long-term plan no later than December 31, 2022. The Plan must be consistent with the requirements of the Order and the Salton Sea Restoration Act (Act) (Fish and Game Code § 2930, et seq.), including the statutory restoration objectives set forth in Fish and Game Code Section 2931, subdivision (c). The Plan is being developed as a second phase to the Phase 1: 10-year Plan projects.

The goal of the LRP is to protect or improve air quality, water quality, and wildlife habitat to prevent or reduce health and environmental consequences anticipated from the long-term recession of the Salton Sea. To achieve this goal, the following objectives must be met:

- Protect or improve air quality to reduce public health consequences;
- Protect or improve water quality to provide opportunities for beneficial uses and reduce environmental consequences;

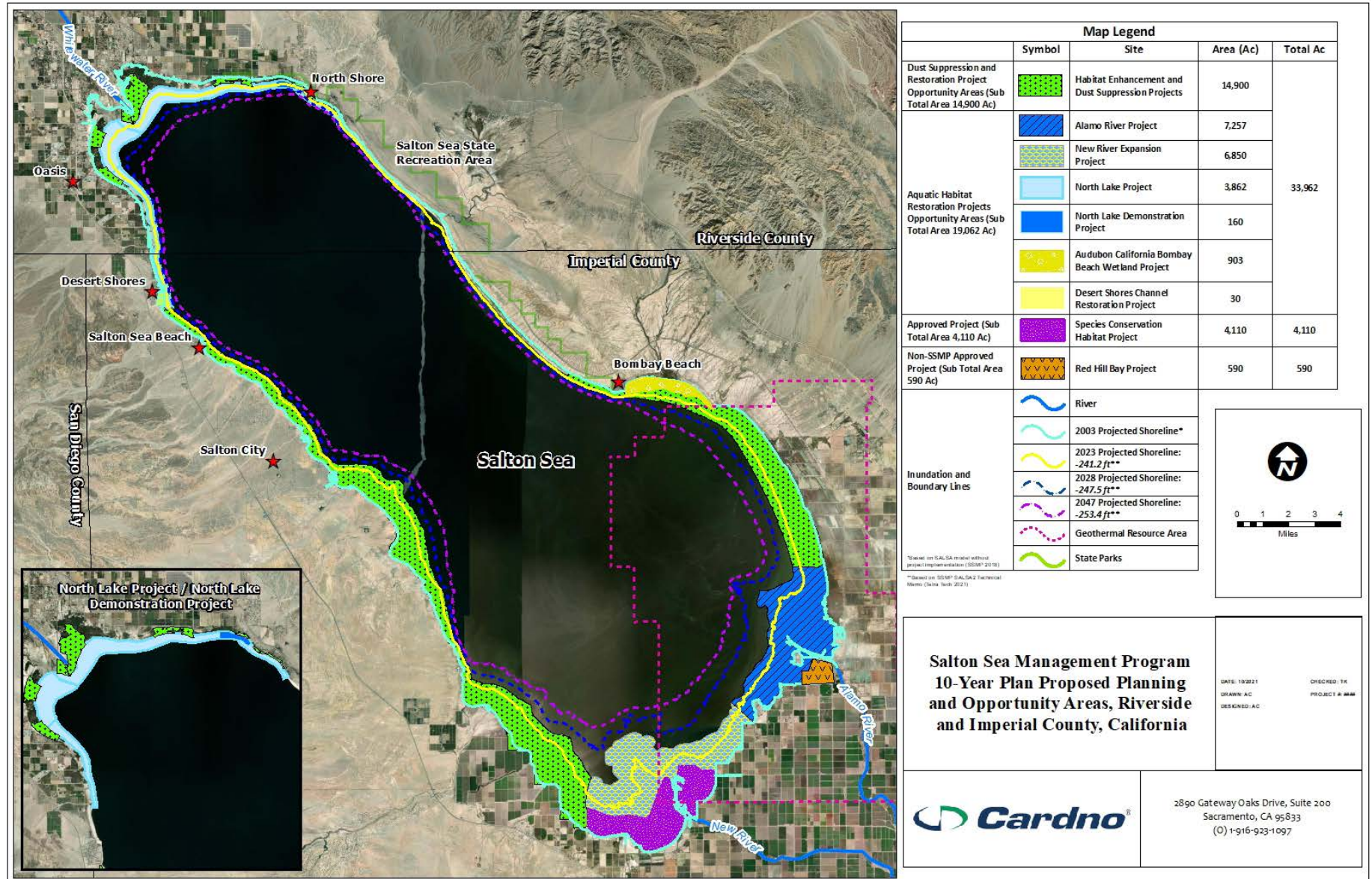
- Restore long-term stable aquatic and shoreline habitat to historic levels and diversity of fish and wildlife that depend on the Salton Sea.

Meeting the aforementioned suite of objectives should be accomplished in a way that is acceptable to the region by being consistent with Tribal, local, state, and federal policy and initiatives. In addition to numerous other factors described throughout the document, any solution should be shaped by Tribal knowledge and expertise, preserve Tribal heritage, enhance the local economy, and achieve environmental justice. In order to best achieve the objectives in this manner, SSMP established the LRPC and met frequently with the public throughout LRP development.

LRPC members were selected by CNRA to be consistent with SWRCB's findings that "successful management of a smaller but sustainable Salton Sea will require the active participation and support of the federal government, affected local and regional governing bodies, affected tribal governments, environmental and philanthropic organizations, and the State of California (WR 2017-0134)."

The LRPC was comprised of Tribal Governments, federal and state agencies, local agencies, and non-governmental organizations (NGO). Organizations were selected based on recent and historical participation in Salton Sea planning efforts. Additionally, LRPC members possessed expertise of some aspect of the Salton Sea—its

Figure 16. Salton Sea project areas included in the NEPA EA process.



communities, socioeconomic issues, water quality, planning, biology, or engineering.

The restoration concepts discussed in the LRP include long-range solutions that do and do not involve water importation. The concepts that do not involve water importation expand on current and past federal, state, and local studies and the restoration plans developed in previous investigations. The concepts that do involve water importation were evaluated through an IRP convened by the University of California at Santa Cruz through an agreement commissioned by the SSMP.

The charge of the IRP was to review concepts for water importation to the Salton Sea for its long-term restoration. The IRP reviewed 18 proposals

from outside groups. Three of the 18 proposals did not involve water importation and were referred to the SSMP Team to be considered during LRP preparation. Of the remaining 15 proposals received, the IRP identified three import concepts that met their criteria. Because of similarities across these three external proposals, the IRP created a merged importation concept, pulling the best features from each proposal. In addition, the IRP proposed a different importation concept, involving an exchange of Colorado River water with desalination in Mexico. In this scenario, the desalinated water would be used in Mexico and an equivalent amount of water would be left in the Colorado River to augment flows to the Salton Sea. Finally, the IRP developed another concept with no importation, which involved

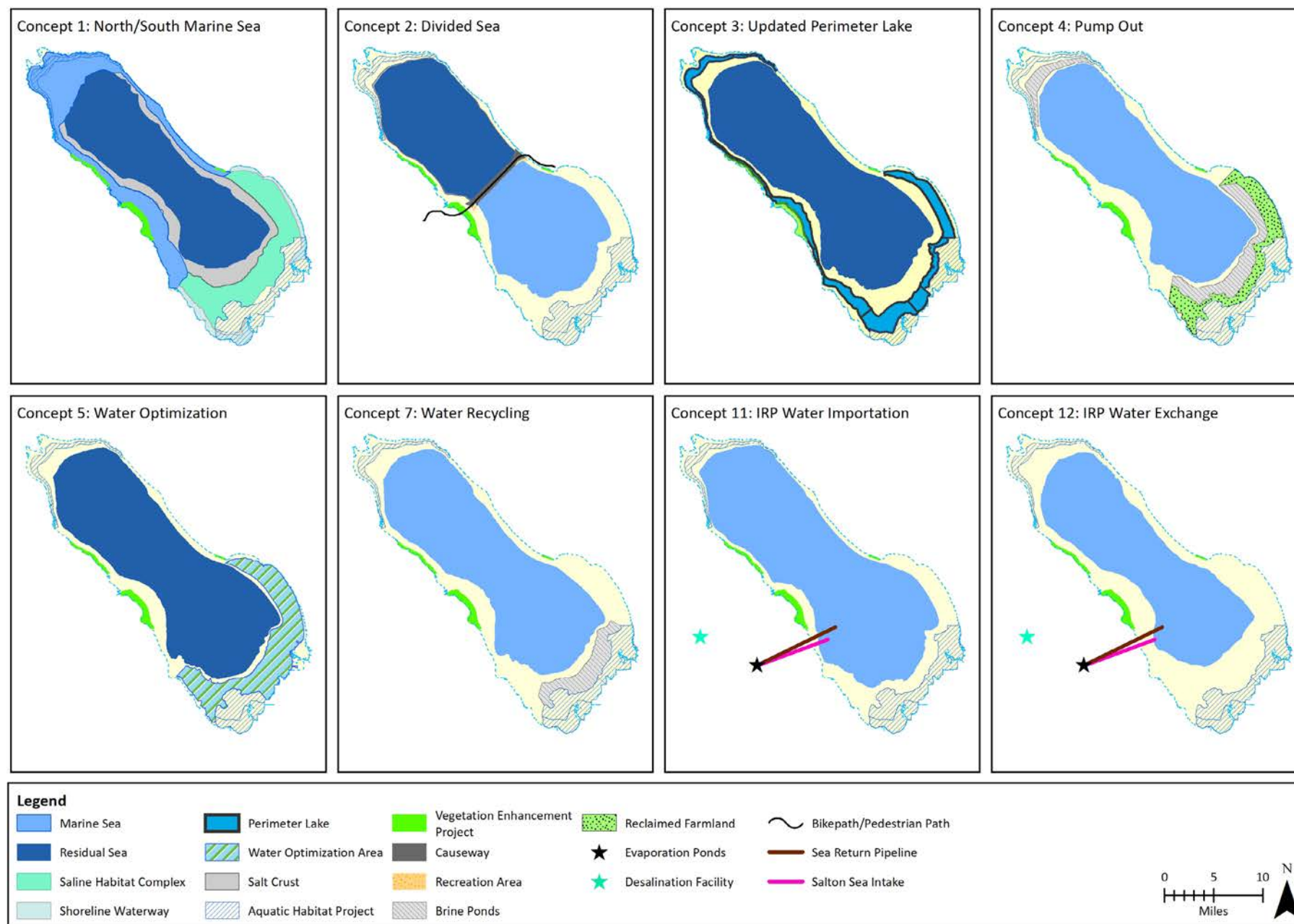
following of land and flow of the resulting Colorado River water to the Sea.

Table 2 provides a summary of the evaluation status of the restoration concepts considered in the LRP. Earlier studies provided a basis for several of the concepts, as presented in the table. **Figure 17** presents a visual overview of the LRP concepts, illustrating the predicted Sea area in the year 2050. This figure is designed to provide an overview of the restoration concepts evaluated; for additional detail please refer to the LRP located here: [Salton-Sea-Long-Range-Plan-Public-Draft-Dec-2022.pdf \(ca.gov\)](#) (CNRA, 2022a). Please note: For simplicity, Figure 17 does not show the detailed variations as summarized in **Table 2**.

Table 2. Evaluation Status of Restoration Concepts from the Long-Range Plan.

Number	Name	Original Source	Status
1	North/South Marine Sea	CNRA (2006)	Three variations evaluated in the LRP (1A, 1B, 1C)
2	Divided Lake/Marine Sea South	Reclamation (2007)	Four variations evaluated in the LRP (2A, 2B, 2C, 2D)
3	Updated Perimeter Lake	SSA (2016)	Two variations evaluated in the LRP (3A, 3B)
4	Pump Out	SSA (2016)	Four variations evaluated in the LRP (4A, 4B, 4C, 4D)
5	Water Optimization	Salton Sea LRPC	Evaluated in the LRP
6	Southlake Restoration and Enhanced Vegetation	Salton Sea LRPC	Components retained for future consideration
7	Water Recycling	Salton Sea LRPC	Evaluated in the LRP
8	Reclamation of Native Desert and Agriculture	Submission to IRP	Components retained for future consideration
9	Floating Solar and Water Generation System	Submission to IRP	Components retained for future consideration
10	Save the Coachella Valley Basin	Submission to IRP	Components retained for future consideration
11	Water Importation	IRP Proposal	Evaluated in the LRP
12	Water Exchange	IRP Proposal	Evaluated in the LRP
13	Colorado River Water Transfer	IRP Proposal	Evaluated in the LRP

Figure 17. Restoration concepts developed as part of the Long-Range Plan. The predicted sea elevations shown are for the year 2050 for the high probability inflow scenario.



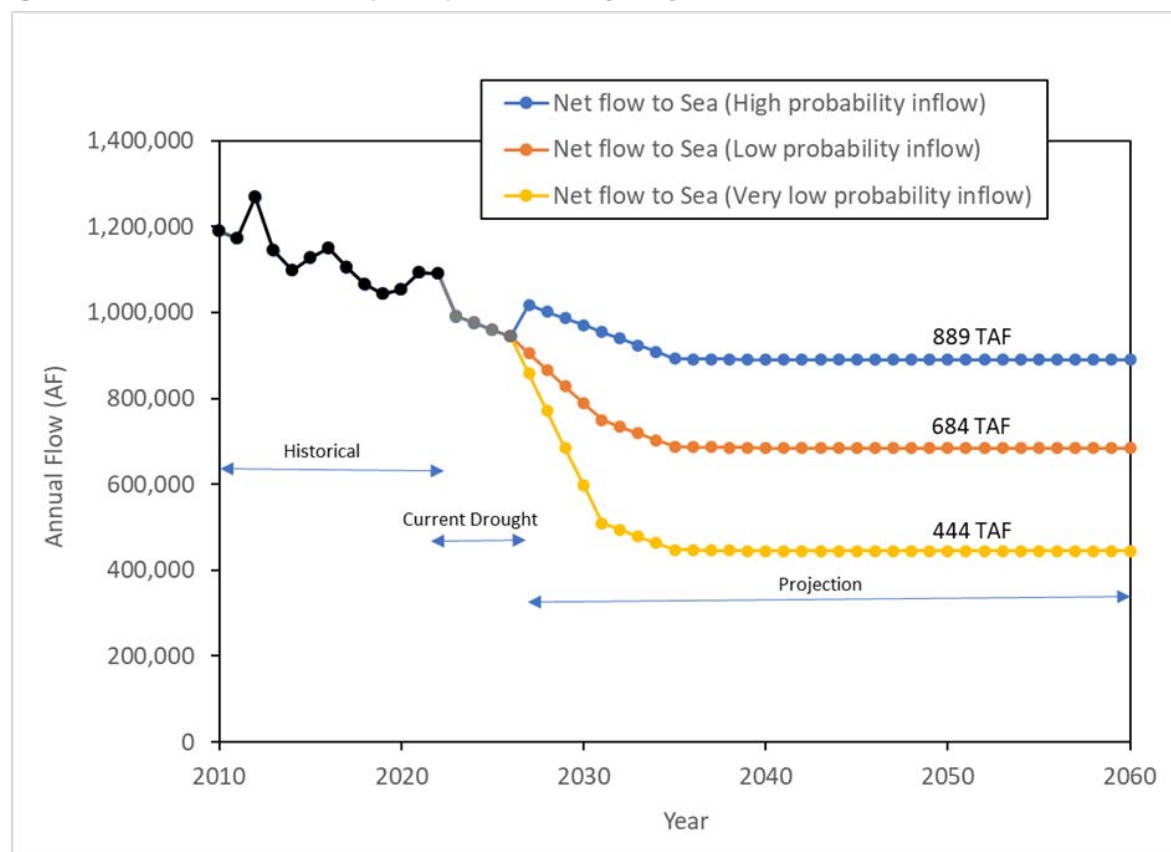
The initial concepts were presented to the Salton Sea LRPC and the public in March 2022. The LRPC and the public were given the opportunity to comment on these concepts as well as to submit other concepts. Based on feedback from this process, new concepts were added, and variations of the original concepts were developed to accommodate various strategies.

The SSMP Team evaluated concepts using criteria developed through the LRPC based on federal planning process guidance entitled *Principles and Requirements for Federal Investments in Water Resources* (March 2013). Following these principles and requirements, the criteria for evaluating restoration concepts were formulated for the following four categories: (1) Effectiveness, (2) Acceptability, (3) Completeness, and (4) Efficiency. The criteria were further refined through discussion with the LRPC and a public comment period.

All restoration concepts were evaluated for three inflow scenarios to the Salton Sea, termed the High Probability Inflow, Low Probability Inflow, and Very Low Probability Inflow scenarios (**Figure 18**). The scenarios were developed through an evaluation of flows on the Colorado River with consideration for the ongoing long-term drought in the west, the possible effect of climate change on evapotranspiration in the Imperial Valley, and possible reductions of flows from Mexico, among other factors.

Based on the evaluations completed as part of the LRP, the most reasonably foreseeable

Figure 18. Inflow scenarios developed as part of the Long-Range Plan.



average annual future inflow, barring any significant future policy changes, was estimated at 889,000 AFY, shown as the High Probability Inflow Scenario in **Figure 18**. To address the uncertainty around future potential water policy changes for the Colorado River, the SSMP Team also measured the performance of concepts with inflows representing drier than expected future conditions and major water policy changes. These inflows are 684,000 AFY and 444,000 AFY.

The LRP recommended the following concepts for further evaluation and development at the next phase of feasibility and environmental review:

- Concepts 2B, 2C, and 2D performed best across all categories for both the High Probability Inflow and Low Probability Inflow scenarios. The LRP recommended that these and other variations of Divided Sea concepts should receive further consideration with a

focus on improving resilience in the event hydrology performs worse than anticipated.

- Concepts 3A and 3B score well but are limited in their ability to provide deep-water habitat. Because they use less water than other concepts, they provide low risk in terms of future water supply concerns. The LRP recommended that variations of Concepts 3A and 3B should receive further consideration with a focus on maximizing deep-water habitat.
- Concepts 4A and 4D score well for “Effectiveness” and only reasonably well for “Acceptability.” While they are deemed incomplete by this analysis due to insufficient deep-water habitat, this metric will be replaced with a more appropriate biologically based measure in a subsequent review phase. The LRP recommended that variations of these concepts should move forward for further consideration with a focus on improving acceptability measures.
- Concept 5 generally performs well except for lacking sufficient deep-water habitat, and for lesser recreational opportunities. The LRP recommended that a variation of Concept 5 should receive further consideration with a focus on adding recreational opportunities.
- Concept 6 was not fully analyzed in this document. However, components of the concept, including phytoremediation for improving water quality of inflowing river water, are recommended for future

Event speakers at the signing ceremony for the Imperial Streams Salton Sea Feasibility Cost-Share Agreement in December 2022.



consideration as components of other concepts during the next phase of environmental review.

- Concept 7 generally scores well for “Effectiveness” criteria, reasonably well for “Acceptability” criteria, but relatively poorly for “Efficiency” criteria. The LRP recommended that a variation of Concept 7 should receive further consideration either 1) as a stand-alone concept with a focus on reducing costs and accelerating the timeframe to a complete solution or 2) combined with other concepts with a focus on delivering greater overall value.

- Concept 10 was not fully analyzed because it does not involve control of salinity or Sea elevation. This concept involves lakebed shore cleanup, waste removal, and beautification. Community outreach would include social media and public meetings and the formation of a “Save the Salton Sea Clean Up Committee” as a short-term initiative. The community could be directly involved in all phases of the project to design educational and habitat restoration opportunities. The LRP recommended that elements of Concept 10 that allow for greater community involvement are retained for further consideration.

- Concept 11 was the most effective concept for all hydrologic scenarios and was the only concept to meet completeness for the Very Low Probability Inflow. This concept is also the most expensive and requires the longest time to implement. The LRP recommended that this concept move forward for future consideration with a focus on identifying cost saving measures and delivering greater value.
- Concepts 12 and 13 are too expensive for the benefits provided as currently configured, when compared to in-basin concepts. However, the LRP recommended that smaller variations of these concepts be considered for their potential to be combined with other concepts in the event that future hydrology is worse than expected.

The development and implementation of the LRP presents a unique opportunity to incorporate critical community amenities into the long-term vision for the Salton Sea. Over the last decade, community members and organizations have advocated for multi-benefit infrastructure projects to address a range of community health and environmental concerns and economic needs. Limitations on the use of bond funding, cost, and regulatory, technological, and landownership challenges have posed barriers to integrating these into the project design of SSMP projects. The development of community amenities is a priority of the SSMP Team as long-range planning for the Salton Sea continues.

The LRP is under public review through March 17, 2023. Following this review period, the Corps will partner with SSMP and SSA to conduct a feasibility study on long-term restoration of the Salton Sea. The LRP and comments received will be foundational in formulating the Feasibility Study.

5.3 Salton Sea Science Program and Monitoring Implementation Plan

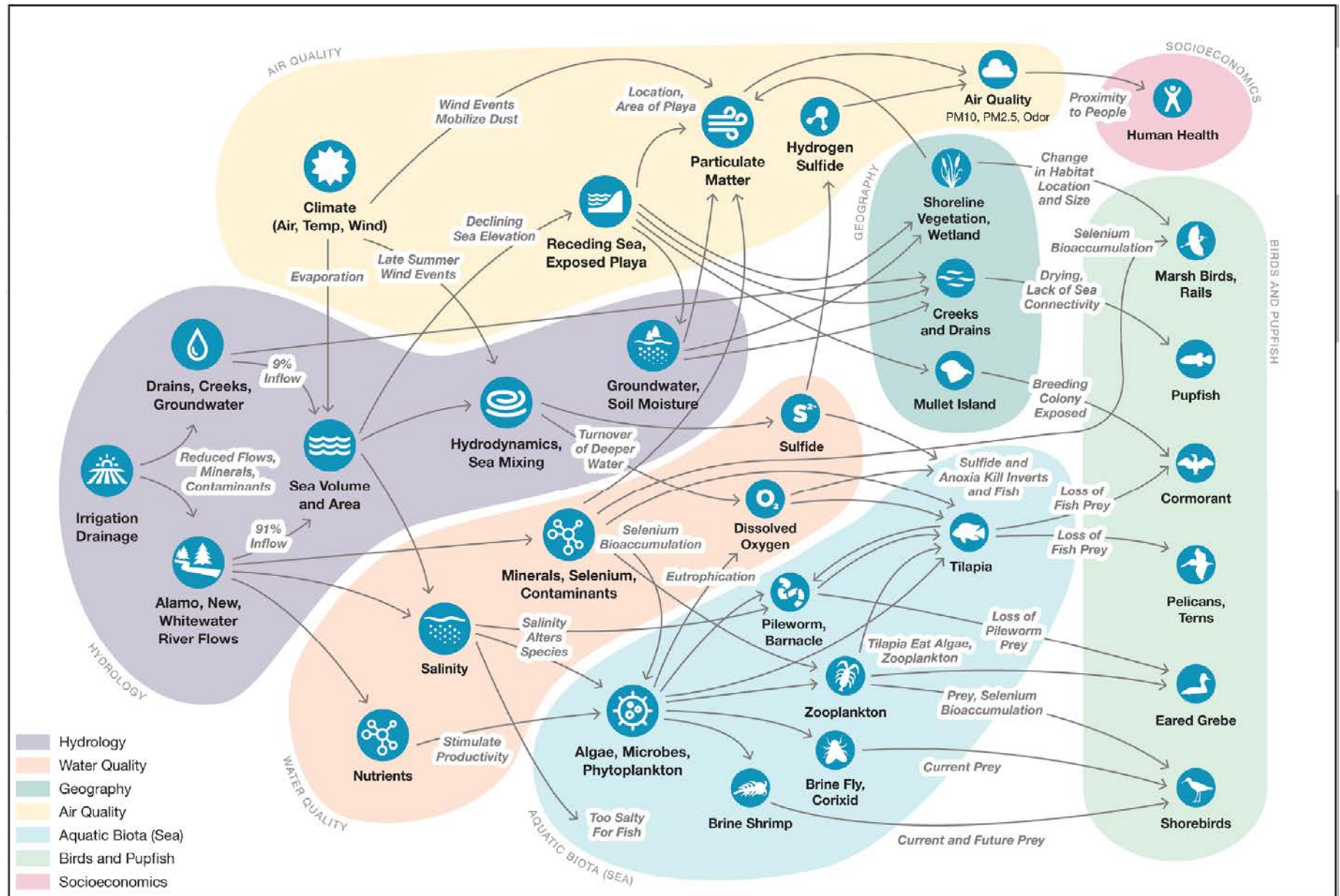
The final version of the MIP was released in December 2022. The MIP was built from prior scientific efforts to identify, prioritize, and describe monitoring activities to track status and trends of resources at the Salton Sea, which can be used to inform the implementation of the restoration programs. The MIP addresses monitoring for several resource areas, including hydrology, water quality, geography, air quality, biological resources, and socioeconomics (**Figure 19**). The MIP has the following general goals:

1. Identify and prioritize monitoring activities that will measure current and future conditions within the Salton Sea ecosystem.
2. Establish milestones against which data gathered during long-term monitoring can be compared.
3. Establish methods for measuring and reporting these metrics.
4. Identify and prioritize the filling of existing data gaps.
5. Describe a framework to store, manage, and make monitoring data publicly available in a timely manner.

The data collected will form a basis to evaluate the overall, long-term effectiveness of projects through an adaptive management approach. It is envisioned that individual projects would develop effective monitoring plans based off the MIP, tailored to that project's specific objectives. This would provide consistent methodology, facilitate comparison to regional trends, and allow roll-up of results across multiple projects. Where possible, monitoring activities would be coordinated among partners to increase data sharing and realize economies of scale.

Working groups were formed to provide input and review of early drafts of the MIP in July and August 2021. Key Salton Sea experts and other interested parties were invited to these working groups in several resource areas: hydrology and water quality, air quality and geography (land cover), biological resources, socioeconomics, and data management. The Draft MIP was released at a public workshop in February 2022 to solicit input and comments from the public and the SSMP Science Committee. The Science Committee's comments were reviewed by the working groups in July and August 2022 and considered in preparation of the 2022 final MIP. The final MIP was released to the public in both English and Spanish in December 2022. The MIP, housed on the Salton Sea webpage, is a living document that can be updated in the future to respond to the changing ecosystem and management needs of the Salton Sea.

Figure 19. Salton Sea Monitoring Implementation Plan.



5.4 The Salton Sea Community Needs Strategy

Over many decades, community members and organizations have advocated for multi-benefit infrastructure projects at the Salton Sea to address a range of community health, environmental, and economic needs. However, limitations on the use of bond funding, cost, and regulatory, technological, and landownership challenges have posed barriers to integrating these into the design of the SSMP projects to date.

In recognition of the need for greater investment in the historically underinvested communities at the Sea, CNRA supported the development of a Salton Sea Community Needs Strategy (the “Strategy”), under contract to the Better World Group.

The Strategy identifies core needs for the Salton Sea communities and outlines recommendations for the SSMP, its state partners, local government, and other actors in the Salton Sea region to advance community amenities. Vital needs identified by communities and addressed within the Strategy include the following: equitable outdoor access, public health, workforce and sustainable economic development, climate resilience, transportation, and broadband access.

The Strategy will be open for a 30-day public comment period in spring 2023. Members of the public are asked to visit the SSMP webpage to review the draft Strategy and provide feedback at <https://saltonsea.ca.gov/>.

5.4.1 Developing the Salton Sea Community Needs Strategy

The formation of the Strategy was informed by the community’s lived experience and expertise. Throughout 2022, the SSMP, Better World Group, and additional community partners met with residents and representatives across a variety of platforms to ensure that community concerns and recommendations were integrated into the document.

As part of an information-gathering process, Better World Group held over 60 interviews with community residents; community-based organizations; federal, state, and local governments; and philanthropic, educational, and healthcare representatives. Better World Group additionally reviewed public comments and reports from over the last decade on the Salton Sea.

Better World Group supported the SSMP to convene a Salton Sea Regional Community Benefits Working Group from summer 2022 through spring 2023. Better World Group created this space to solicit additional feedback, and report back to community members while drafting the Strategy. The Working Group has brought residents and advocates who are striving for broader benefits in the Salton Sea region together with local, state, and federal governments, including the SSMP, to develop a collective understanding of the regional needs and existing initiatives to address those needs. Each session focused on a particular issue area, such as transportation, to highlight

existing programs, funding, and implementation opportunities, as well as key barriers or gaps.

In summer 2022, the Audubon Society led a separate community engagement process funded by the Bureau of Reclamation to elevate local needs tied to recreational habits, desired amenities, and desired future activities at the Sea. In a community access survey, Audubon collected feedback from 631 adult residents near the Salton Sea in English and Spanish over the phone and online. Additionally, 41 adult Purépecha residents were interviewed in the indigenous Purépecha language. Key findings from this study will be integrated into Audubon’s Public Access Landscape Suitability Analysis, anticipated for release in summer 2023, and are folded into the Strategy’s outdoor recreation components.

In December 2022, the SSA issued a Request for Proposals for a community partner to lead outreach on broader community amenities, to incorporate within the Strategy. Non-profit Kounkuey Design Initiative was selected to lead direct outreach with the communities in Eastern Coachella and Imperial County, in partnership with local organizers and community-based organizations, to further ground truth findings. This outreach included community feedback from 255 individuals through mobile “obelisk” engagements in Brawley, Calipatria, Westmorland, Salton City, El Centro, Calexico and Thermal, as well as five virtual and in-person focus groups that engaged 55 community participants.

Kounkuey Design Initiative additionally collected more than 500 community surveys online or in-person, including at the December 2022 SSMP Community Update in Calipatria.

5.4.2 Key Outcomes of Salton Sea Community Needs Outreach

The findings of each community-led and informed discussion have been integrated into the Strategy. Notably, communities shared interest in greater coordination for regional policy and infrastructure efforts related to broadband, transportation, workforce development, and local and regional planning for the Salton Sea.

Community members additionally expressed interest in collaborating to bring expanded federal and state funding to the region and emphasized the need for continued Tribal outreach and engagement. Community members shared their eagerness to increase staffing for the SSMP to provide on-the-ground coordination and deeper community outreach across the region.

Landowners, land managers, planning departments, and community advocates also highlighted strong interest in advancing the development of recreational amenities like trails and restrooms through a comprehensive trail planning effort at the Sea.

The SSMP made its best effort to reflect additional needs, barriers, or opportunities surfaced through this community amenities outreach, as described, within the strategies and actions outlined in the report.

5.4.3 Implementing the Salton Sea Community Needs Strategy

The SSMP is committed to implementing actions identified within the Strategy in a way that is responsive to the needs of communities at and around the Salton Sea. The SSMP also recognizes the limitations of its funding, staffing capacity, and barriers around land ownership and the need to strike a balance. Notably, the implementation of SSMP Phase I: 10-Year Plan projects and the development of the LRP may present opportunities to incorporate critical community amenities into the long-term vision for the Salton Sea.

The SSMP 10-Year Plan projects offer several opportunities to advance recreation and equitable outdoor access at the Salton Sea. For example, the Audubon Bombay Beach Restoration Project will provide accessible walking trails and interpretative signage to the public. As proposed, the North Lake Pilot Demonstration Project additionally includes boat ramps and additional recreational opportunities, which increase outdoor access to the Sea. Finally, the Desert Shores Channel Restoration Project offers a community garden with trees to provide shade and native plants.

Within the LRP, the proposed “acceptability criteria” support the development of projects that respond to community needs. These acceptability criteria establish measures to score potential projects based on their ability to protect

natural and cultural resources, incorporate Tribal expertise, advance equitable outdoor access, support local workforce development, and more.

The LRP further integrates community amenities by identifying opportunities across various concept designs to implement public access and recreational amenities through physical infrastructure investments, such as shade structures, barbecue and picnic areas, nature viewing areas, restrooms, water fountains, lighting, parking and public transit, recreation, and cooling centers.

Artistic renderings of potential recreational and access amenities at the Salton Sea, developed through LRP project opportunities, are provided in **Figure 20**. Within these renderings, amenities such as parks, trails, bike paths, viewing platforms, fishing piers, and boat ramps are accompanied by outdoor access infrastructure to support recreation for communities at and around the Sea, such as shade, benches, restrooms, and outdoor lighting.

5.5 Organizational Capacity

In 2020, the SSMP Team was reorganized as shown in **Figure 21**. Teams at the California DWR and the CDFW were each led by a Career Executive Assignment position. The SSMP Team consists of 27 full-time positions and includes staff from CNRA (3 positions), CDFW (9 positions), and DWR (15 positions), as shown in Figure 16. The SSMP Team filled several existing vacancies in

Figure 20. Artistic renderings of community amenities developed as part of the LRP by local Imperial County artist Sergio Ojeda.



2022 with promotions of existing staff as shown in Box 1. CDFW added an environmental scientist and a staff services analyst to the program in its Bermuda Dunes office and promoted a staff member to Supervisor.

Besides increasing the number of staff on the SSMP Team, the SSMP has access to specialized staff through contracted services for planning,

environmental analysis, engineering, outreach, and dust project implementation.

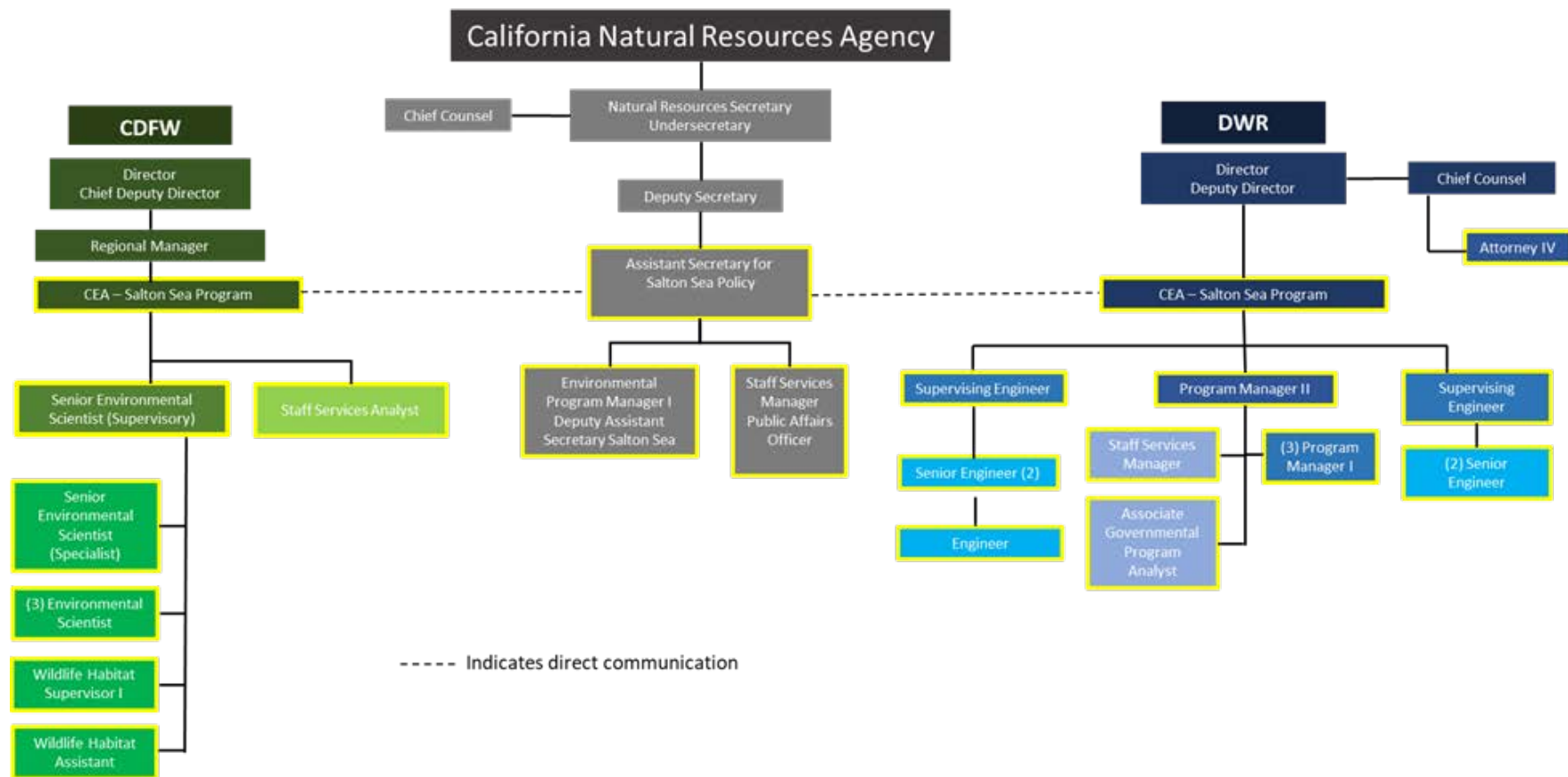
5.6 Funding Status and Planning

The State has appropriated \$507.7 million in funding for Salton Sea-related activities since the execution of the QSA in 2003. The 2021-22 Budget Act committed another \$220 million in near-term General Funds, including \$40 million appropriated

in fiscal year 2021-22. \$100 million has been appropriated for the fiscal year 2022-23. The remaining \$80 million will be appropriated in fiscal year 2023- 24 through the annual budget act.

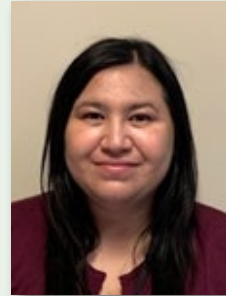
A detailed breakdown of sources and expenditures of SSMP funding from a variety of state and federal sources are shown in Appendix B. Funding to date has allowed the State to administer the SSMP; grow organizational

Figure 21. Salton Sea Management Program organizational chart.



Box 1. Meet the New SSMP Staff.

Brett Daniels joined the CDFW as an Environmental Scientist in April. Daniels holds a Master's in Conservation Biology and a Bachelor's in Environmental Science. He has over 30 years' experience in the field, with 22 of those years in the Coachella Valley. He previously served as the biologist and aquatic invasive species expert for the Coachella Valley Water District and Environmental Programs Director for the City of Coachella. A recognized desert reptilian and desert pupfish expert, Daniels has led field research, provided live reptile talks in classrooms, and worked on numerous southwestern restoration projects. Daniels is based out of the CDFW Bermuda Dunes office.



AnaLisa Saldaña is a new Staff Services Analyst in the California Department of Fish and Wildlife as part of the SSMP Team. Saldaña is based out of the Bermuda Dunes office. She is supporting with administrative tasks needed to make the program run smoothly. She is filling a position that became vacant last year. AnaLisa was previously employed with the Department of Development Services-Canyon Springs as an Office Technician. She holds a degree in Liberal Arts and one in General Studies both from Palo Verde College.



Charley Land was promoted to the Salton Sea Program Supervisor at CDFW in May. Land holds a Bachelor's in Geology from the University of Missouri-Columbia and a Master's in Range and Wildlife Management from Texas A&M University-Kingsville. He has been with CDFW and working out of the Bermuda Dunes office in Riverside County for the past 10 years. Prior to this appointment, Land served as regulatory and scientific lead with the Salton Sea Management Program since 2020. Land is based out of the CDFW Bermuda Dunes office.



John Palenko was promoted to Staff Services Manager I, Specialist. John works closely with SSMP's Budget, Contracts, Financial Processes, various DWR Programs and California Departments, and external interested parties.

capacity as described above; complete environmental documents and acquire permits; procure contracts and agreements for goods and services; conduct surveys and studies; improve community engagement, outreach, and involvement; and allocate funds for several projects. Key areas where funding has been spent or allocated are summarized below:

- Implementation of the SCH Project, \$206.5 million (currently under construction).
- North Lake Pilot Demonstration Project, \$19.25 million in Proposition 68 funding. This project will be jointly developed by the SSMP, the SSA, and Riverside County. The SSA and the State completed a funding agreement for this project in 2021.
- The New River Improvement Project, \$47 million. The funding includes \$18 million in one-time General Fund support, \$10 million from Proposition 68, and \$19 million from SWRCB's Border Water Quality Infrastructure fund.
- Habitat enhancement and dust suppression projects, \$20 million (approximately \$10 million has been allocated to the three vegetation enhancement projects that are currently underway on Reclamation lands).
- Additional expenditures of \$24 million have been committed for technical and administrative support over fiscal year 2021-2024, and specialized contractor support for environmental compliance planning

and permitting, project design and analysis, monitoring implementation, and long-range planning.

Remaining 10-Year Plan projects will receive funding identified in the "Available for Additional Commitments" column in the funding table labeled Appendix B and an additional \$80 million still to be appropriated in fiscal year 23/24. Additionally, any funding received from the U.S. Department of Interior will be used to expedite 10-Year Plan projects. For example, \$24.6 million of Proposition 68 funds is currently being used as a contingency fund for the SCH Project; approximately \$10 million of the \$20 million allocated for habitat enhancement and dust suppression projects described above have still not been committed to a specific project.

The SSMP Team intends to update funding requirements after completing the Phase I: 10-Year Plan EA in 2022 as project types, operations, locations, and other costs will be better defined and will allow more accurate cost estimates.

In recognition of the funding needs, the SSMP Team continues to develop a broader strategy for federal funding and partnership opportunities to assist with implementation of the SSMP. Key sources of funding are identified below.

- The NRCS will redirect the \$650,000 available through a previous cooperative agreement to help the SSMP prepare a Salton Sea Watershed Plan Supplement that will tier

from the work done for the SSMP 10-Year Plan EA. This will enable the State to qualify for \$25 million of additional NRCS funding for implementation of projects included in the plan. The expected completion of the Watershed Planning process is in fall 2024.

- In addition, Governor Newsom signed [Senate Bill 125](#) in June 2022, which created an excise tax on lithium extraction beginning in January 2023. The bill directs 80 percent of the tax revenue to Imperial County and 20 percent to maintenance and development of Salton Sea restoration projects and grants for community engagement or community-benefit projects at or around the Salton Sea.
- U.S. Department of Interior, through the Inflation Reduction Act and under the Salton Sea Commitment Agreement to address the ongoing drought in the Colorado River signed in December 2022, will provide \$22 million in new funding through 2023 to implement projects at the Salton Sea, fund staff support at the Torres Martinez Desert Cahuilla Indian Tribe, and conduct research and management to aid project implementation. If IID and CVWD enact prescribed measures to reduce their use of Colorado River water, Reclamation will provide an additional \$228 million over the next four years to accelerate Salton Sea projects and offset related impacts.



6 Next Steps

The SSMP Team remains focused on completing the Phase I: 10-Year Plan projects now in progress, which include the SCH; the vegetation enhancement projects at Clubhouse, Tule Wash, and West Bombay Beach; the North Lake Demonstration Pilot Project; and the Audubon Bombay Beach Wetland Project. Project concepts have been developed for additional projects to be initiated over the next three years as described below. Once the NEPA EA document has been completed later in 2023, additional projects to meet the full requirements of the State Board Order 2017-0134 will be identified.



This chapter highlights the next key steps to be taken in the years ahead, in terms of project development and positioning for future elements of the Phase I: 10-Year Plan. While specific project concepts for future years have been outlined to show the SSMP Team's approach to meet the State Water Board Order WR 2017-0134 targets, the team is open to meaningful engagement with the community to further refine and revise each of these concepts.

6.1 Key Program Activities in 2023

An important milestone for 2023 will be the completion and commissioning of the 4,100-acre SCH project. The SCH Monitoring and Adaptation Management Plan (MAMP) will be updated to ensure consistency with current conditions, designs, MIP, and regulations.

Building on the SCH project and anticipating additional exposed lakebed at the southern end of the Sea, planning and design work will begin on the SCH Expansion Project, which seeks to add approximately 7,000 acres of adjacent aquatic habitat as part of the SSMP habitat acreage targets.

Work will also expand along the northern shore of the Sea. Site access is expected to be obtained for the 1,600-acre North Lake Project, conceptual design for this project will be initiated, and water supplies identified. For

the 160-acre North Lake Demonstration Pilot Project, field surveys and detailed designs will be completed, and a contractor will be hired to construct the project.

Work will continue to advance on the three vegetation enhancement projects at Clubhouse, West Bombay Beach, and Tule Wash. This includes completion of seeding/planting and irrigation, bale placement at the Tule Wash site, and installation of stormwater spreading infrastructure. Five groundwater production wells across the three sites will be developed and will provide a source of local water supply to irrigate the vegetation projects.

Project construction for the Desert Shores channel restoration project also will begin.

Work will continue with the Corps and other cooperating agencies to finalize the EA and to establish the Letter of Permission (LOP) procedures to start developing projects.

Planning for the Wister Marsh project will be completed in preparation for construction the following year.

Planning for the San Felipe Fan Project and the SCH Vegetation Project will be started in preparation for construction by 2025.

A template land access agreement will be developed and used to enter into agreements with landowners for the next tranche of projects including the North Lake Project and the SCH Expansion Project.

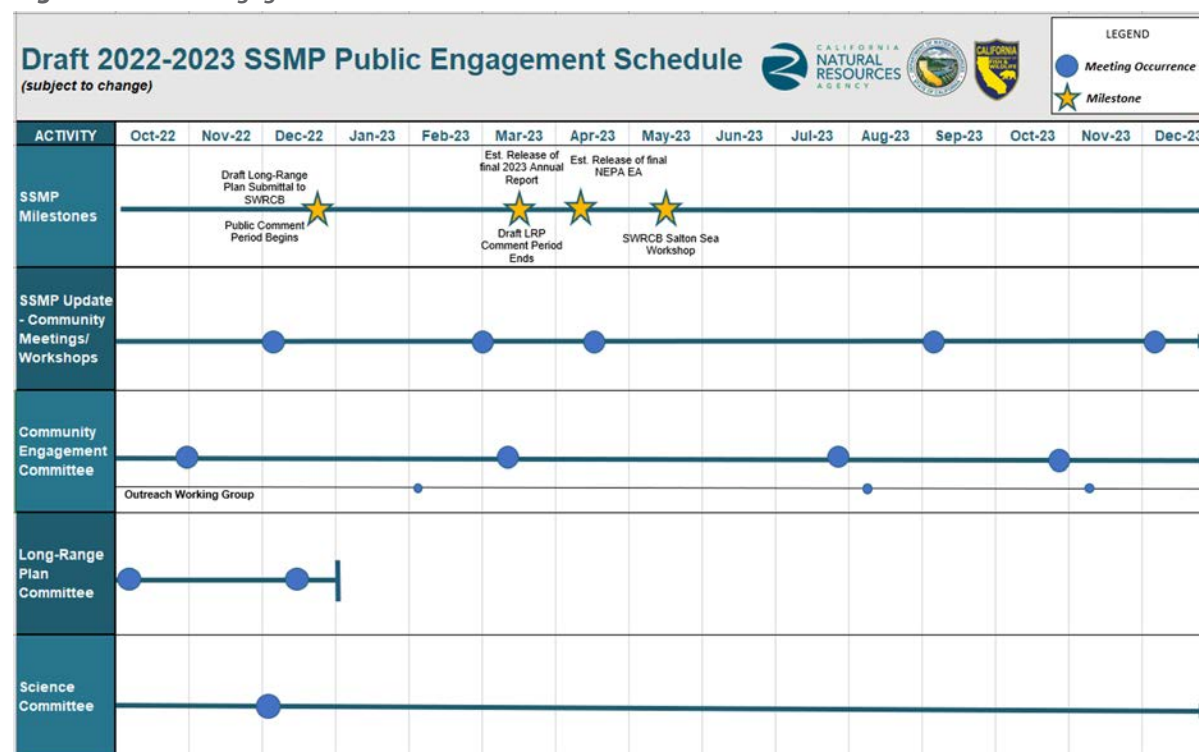
The MIP was finalized and released in December 2022. The next step will be establishing a work plan to prioritize and implement monitoring in 2023. This will include coordination with other partners who may be doing monitoring and research at the Salton Sea to ensure coordinated sampling and leveraging of monitoring resources. Water quality monitoring will be performed at selected drains and in the Salton Sea.

The Science Committee will continue their support of the program with review of the SCH MAMP and the LRP.

To address community needs, develop additional partnerships with the California Department of Public Health.

To meet community engagement needs, a draft Engagement Schedule (**Figure 22**) has been developed by the SSMP Team to provide a general idea of when meetings and engagement opportunities might occur during the upcoming year.

Figure 22. Public engagement schedule for late 2022 and 2023.



6.2 Key Program Activities in 2024

SCH completion and normal operations are expected to begin by 2024. The SCH Expansion Project contractor is expected to be selected and construction is expected to begin in 2024. An operations and maintenance (O&M) plan for SCH project will be developed and implemented.

On the northern shore of the Sea, survey activities for the North Lake project are expected to be completed, and additional planning and permitting work will be done in preparation for construction during the following year.

Start of construction of the Audubon Bombay Beach Wetland Project.

Start of construction of the Wister Marsh Project.

Water quality monitoring will be performed at selected drains in the vicinity of projects, the SCH ponds, and the Salton Sea. Additional monitoring associated with the MIP will be performed.

6.3 Key Program Activities in 2025

Continued O&M of the SCH project. Ongoing construction of the SCH Expansion Project.

Start of construction of the North Lake Project.

Start of construction for the San Felipe Fan Project and the SCH Vegetation Project.

Water quality monitoring will continue at selected drains in the vicinity of projects, the SCH ponds, and the Salton Sea. Additional monitoring associated with the MIP will be performed.

6.4 Meeting State Water Board Order WR 2017-0134 Targets

The State Water Board Order sets out annual targets that the SSMP Team has been actively working toward. While the completion of projects has been lower than the acreage targets, the team anticipates a significant increase as some major projects are completed in coming years, as shown in **Table 3**.

Table 3. SSMP Projects Summary Table

Year End Goal	WR 2017-0134 Target Acres	Cumulative WR 2017-0134 Target Acres	Completed and Planned Land Access Acres	Cumulative Land Access Acres	SSMP Completed and Planned Acres	SSMP Cumulative Completed/Planned Acres (Mid-Range)	Projects
2018	500	500					
2019	1,300	1,800	4,100	4,100			
2020	1,700	3,500	4,100	4,100	755	755	Three interim dust suppression projects (755 acres) completed on the SCH footprint
2021	3,500	7,000	1,700	5,800	1,000 – 2,000	2,255	<p>SCH Project (approx. 4,100 acres) – Under construction. To be completed in 2023. (Note: 22 acres of Desert Pupfish habitat were created and 500 acres of dust suppression were implemented within the SCH footprint in 2021)</p> <p>Three vegetation enhancement projects on Reclamation lands (Approx. 1,700 acres) – Construction started in late winter 2021:</p> <ul style="list-style-type: none"> • Clubhouse Vegetation Enhancement Project (399 acres); • Tule Wash Vegetation Enhancement Project (1,217 acres); • Bombay Beach West Vegetation Enhancement Project (91 acres)
2022	1,750	8,750	-	5,800	290	~2600	<p>Approximately 290 acres were seeded/planted and irrigated within the existing rows of grass bales at Clubhouse and West Bombay Beach sites. An additional 1,085 acres of vegetation enhancement projects began implementation at Clubhouse, Tule Wash and West Bombay Beach (dust suppression through temporary engineered roughness is being placed on 875 acres).</p> <p>Major progress on the SCH Project includes completion of most pond berms, nesting islands, the causeway connecting the saline water source to the pump and habitat ponds, and the New River Diversion Structure.</p>

Table 3. SSMP Projects Summary Table (Contd.)

Year End Goal	WR 2017-0134 Target Acres	Cumulative WR 2017-0134 Target Acres	Completed and Planned Land Access Acres	Cumulative Land Access Acres	SSMP Completed and Planned Acres	SSMP Cumulative Completed/Planned Acres (Mid-Range)	Projects
2023	2,750	11,500	~10,000	15,800	5,400	7,000*	<p>Complete construction of the SCH Project (approx. 4,100 acres) and vegetation enhancement projects (approx. 1,300 acres)</p> <p>Implementation of the following projects:</p> <p>Desert Shores Channel Restoration Project (30 acres) – in planning (environmental compliance, permitting, land access, water supply). Anticipated construction start date in 2023.</p> <p>Initiate permitting and preliminary design of the following projects (8,750 acres):</p> <ul style="list-style-type: none"> • SCH Expansion Project (~7,000 acres) • North Lake Project (~1,600 acres) • Wister Unit Marsh Bird Habitat Restoration Project (~150 acres) <p>Initiate conceptual design of the following projects (1,260 acres):</p> <ul style="list-style-type: none"> • San Felipe Fan Project- wetland and vegetation enhancement (~660 acres – Reclamation parcels only) • SCH Vegetation Project (~600 acres)
2024	2,700	14,200	2,000 – 3,000	14,700	~1,000	~8,000	<p>Implementation of the following projects (992 acres):</p> <p>Audubon Bombay Beach Wetland Project (832 acres) – in design. Anticipated construction start date in 2023.</p> <p>North Lake Demonstration Pilot Project (160 acres) – in planning (environmental compliance, permitting, land access, water supply). Anticipated construction start date in 2024.</p> <p>Goal is to start construction on all projects listed above by end of 2024.</p>

Table 3. SSMP Projects Summary Table (Contd.)

Year End Goal	WR 2017-0134 Target Acres	Cumulative WR 2017-0134 Target Acres	Completed and Planned Land Access Acres	Cumulative Land Access Acres	SSMP Completed and Planned Acres	SSMP Cumulative Completed/Planned Acres (Mid-Range)	Projects
2025	3,400	17,600	2,000 – 3,000	17,200	~10,000	~18,000	Goal is work on implementation of the above identified projects to meet 17,600 acreage target in State Water Board Order WR 2017-0134.
2026	4,000	21,600			*A comprehensive project pipeline and schedule will be developed following completion of the 10-Year Plan NEPA EA process in early 2023.		
2027	4,000	25,600					
2028	4,200	29,800					

7 References

- Audubon California. 2022. Project Description for Bombay Beach Wetland Habitat and Dust Control Demonstration Project. Prepared for Audubon California by Formation Environmental. August.
- CNRA. 2006. Programmatic Environmental Impact Report (PEIR) for the Salton Sea Ecosystem Restoration Program. Prepared for CNRA by Department of Water Resources and Department of Fish and Game.
- CNRA, DWR, and CDFW. 2017. *Salton Sea Management Program Phase I: 10-Year Plan*. Available at: <https://saltonsea.ca.gov/program/salton-sea-management-program-phase-i/>
- CNRA, DWR, and CDFW. 2022. Salton Sea Monitoring Implementation Plan, November. Available online at: https://saltonsea.ca.gov/wp-content/uploads/2022/12/Salton_MIP_Final_Updated_20221220.pdf.
- CNRA. 2020. *Salton Sea Management Program: Dust Suppression Action Plan: July 2020*. Available online at: <https://saltonsea.ca.gov/planning/dust-suppression/>
- CNRA. 2022a. Salton Sea Management Program: Long-Range Plan, Public Draft. Available online at: <https://saltonsea.ca.gov/wp-content/uploads/2022/12/Salton-Sea-Long-Range-Plan-Public-Draft-Dec-2022.pdf>
- CNRA. 2022b. Salton Sea Management Program: Appendices to the Long-Range Plan, Public Draft. Available online at: <https://saltonsea.ca.gov/wp-content/uploads/2022/12/Salton-Sea-Long-Range-Plan-Public-Draft-Dec-2022-Appendices.pdf>
- IID. 2018. Salton Sea Hydrology Development. Prepared by CH2M HILL for the Imperial Irrigation District. October.
- Paz, Silvia (Chair), Ryan E. Kelley (Vice Chair), Steve Castaneda, Rod Colwell, Roderic Dolega, Miranda Flores, James C. Hanks, Arthur Lopez, Luis Olmedo, Alice Reynolds, Frank Ruiz, Manfred Scott, Tom Soto, Jonathan Weisgall. 2022. Report of the Blue Ribbon Commission on Lithium Extraction in California. California Energy Commission. Publication Number: CEC-300-2022-009-F
- Salton Sea Authority. 2016. Salton Sea Funding and Feasibility Action Plan, funded by California Natural Resources Agency, Benchmark Report 4.
- UCSC. 2022. Evaluation of Water Importation Concepts for Long-Term Restoration of the Salton Sea. Available online at: https://transform.ucsc.edu/wp-content/uploads/2022/09/Summary_Report_9-29-22_Final.pdf
- U.S. Bureau of Reclamation (Reclamation) Lower Colorado Region. 2007. Restoration of the Salton Sea: Final Report. December.

Acronyms and Glossary

BLM	U.S. Bureau of Land Management	EA	Environmental Assessment, part of the National Environmental Policy Act (NEPA) compliance process
CARB	California Air Resources Board	ICAPCD	Imperial County Air Pollution Control District
CCV	Comité Cívico del Valle, a community-based organization	IID	Imperial Irrigation District
CDFW	California Department of Fish and Wildlife	IRP	Independent Review Panel (for water import options)
CEC	California Energy Commission	JPA	Joint Powers Authority, created to fund mitigation activities to address impacts of agricultural-to-urban water transfers from the Quantification Settlement Agreement (see QSA)
CEQA	California Environmental Quality Act	LOP	Letter of Permission
CNRA	California Natural Resources Agency	LRP	Long-Range Plan
Corps	U.S. Army Corps of Engineers	LRPC	Long-Range Planning Committee
CRBRWQCB	Colorado River Basin Regional Water Quality Control Board	MAMP	Monitoring and Adaptation Management Plan
CVSC	Coachella Valley Stormwater Channel	mg/l	milligrams/liter
CVWD	Coachella Valley Water District	MIP	Monitoring Implementation Plan
DSAP	Dust Suppression Action Plan	MOU	Memorandum of Understanding
DWR	California Department of Water Resources		

NEPA	National Environmental Policy Act
NGO	Nongovernmental organization
NRCS	Natural Resources Conservation Service
O&M	operations and maintenance
PM	particulate matter, in this context refers to suspended dust in the air
ppt	parts per thousand
QSA	Quantification Settlement Agreement, an agreement among state, federal, and local agencies allowing the transfer of irrigation water from IID to the San Diego County Water Authority, Coachella Valley Water District, and Metropolitan Water District of Southern California for urban use.

Reclamation	U.S. Bureau of Reclamation
RFP	Request for Proposal
SCAQMD	South Coast Air Quality Management District
SCH	Species Conservation Habitat
Sea	Salton Sea
SSA	Salton Sea Authority
SSAM	Salton Sea Accounting Model
SSMP	Salton Sea Management Program
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey



Appendix A. Existing Conditions

This appendix provides an update on current conditions in the Salton Sea region, including Salton Sea inflows, elevation and salinity.

A.1 Inflows

Table 4 presents water inflow to the Salton Sea by year and region for the calendar years 2016 to 2022. The SSMP Team performed a detailed analysis of inflows to the Salton Sea as part of the LRP preparation and refined the methodology for the inflow sources to the Sea, as summarized in the table.

Each inflow term is further described in the following bullets. Detailed information and derivations for each of these inflow terms can be found in Appendix B (Hydrology and Climate Change) to the Long-Range Plan (CNRA, 2022b).

- **Imperial Valley:** The Imperial Valley term consists of two components: gaged flow and ungaged flow. Gaged flows are recorded at USGS gages at the mouth of the Alamo and New Rivers in Imperial Valley (USGS Station ID: 10254730 and USGS Station ID: 10255550, respectively). To account for Mexico flows separately, the contribution from Mexico is subtracted from this term (see next bullet). For ungaged inflows into the Salton Sea from the Imperial Valley, IID previously estimated these as equal to approximately 9% of the total volume of gaged flows (IID, 2018).
- **Mexico:** This term is USGS gage flow from the New River at International Boundary station (USGS Station ID: 10254970).

Table 4. Water Inflow to the Sea by Year, in thousand acre-feet

Year	Imperial Valley	Mexico	Coachella Valley	Local Watershed	Ground-water	Total Inflow to Sea
2016	983	70	80	4.4	11.5	1,149
2017	942	69	77	4.7	11.8	1,104
2018	913	61	75	4.7	12.2	1,065
2019	883	64	80	5.0	12.3	1,044
2020	892	63	82	4.9	12.3	1,054
2021	934	62	81	4.7	12.3	1,094
2022	884	68	74	4.4	12.3	1,043

- **Coachella Valley:** This term consists of two components: USGS gaged flow, which measures the Coachella Valley Stormwater Channel (CVSC), and drain flow from drains other than the CVSC. Gaged flow is measured at USGS gage station Whitewater River near Mecca (USGS Station ID: 10259540). Drain flow from other than CVSC was provided by the Coachella Valley Water District.

- **Local Watershed:** This inflow term is derived through a combination of gaged flow (Salt Creek watershed) and analytical methods (San Felipe Creek watershed and areas not tributary to Salt or San Felipe creeks).
- **Groundwater:** The groundwater term is derived from a combination of literature values for the Imperial Valley and San Felipe alluvium, and recent modeling of the Coachella Valley performed for the Indio Subbasin Water Management Plan Update. The groundwater term is an area of uncertainty, and the SSMP Team plans to conduct updated modeling of groundwater flows in the future.

Despite the ending of mitigation water flows at the end of 2017, total estimated inflows to the Salton Sea remain stable overall. In 2022, total inflow was 1,043 thousand acre-feet, lower than the inflow in 2021 and approximately the same as the inflow in 2019. While recent inflows (2016–2022) have remained relatively stable, they are nonetheless much lower than the rate of evaporative loss from the surface of the Sea. For this reason, the Sea continues to decline in elevation.

A.2 Salton Sea Elevation and Salinity

The elevation of the Sea is measured daily, and lakebed exposure can be estimated from the elevation-area relationship of the Sea. For the SSMP, there is a need to develop future projections of lakebed exposure, on the timescale of 5-10 years, because a large fraction of the State Board Order WR-0134 project construction will likely occur on land that is currently underwater. The SSMP Team uses a computer program, the Salton Sea Accounting Model (SSAM), originally developed by Reclamation, to predict Sea elevation and salinity. The model makes predictions of the future state of the Sea via mass balance of water volume and salt mass on an annual timestep. Freshwater inflows add water and salt to the sea, direct precipitation and evaporation add/remove water but not salt, and salt precipitation removes salt but not water.

The water surface elevation measured on December 31, 2022, was 237.9 feet below mean sea level. **Figure 23** illustrates the observed Salton Sea water surface elevation compared with SSAM model predictions. By using future estimated inflows (see **Figure 18**), predicted

model outputs can be used to bracket near-term expected elevations and lakebed exposure for planning purposes.

Salinity data are collected by Reclamation, represented by the observed data presented on **Figure 24**. For each date when data are collected, there are typically six data points representing surface and bottom samples taken at three separate locations at the Sea. Salinity at the Sea has continued to increase over the past two decades and appeared to show a more rapid increase over the most recent period. The most recent reported salinity levels sampled in January 2020 average 74,000 milligrams/liter (mg/l), greater than twice the salinity of ocean water. The January 2020 average salinity of 74,000 mg/l is a large increase over the prior average salinity value of 69,000 mg/l, measured in June 2019. Salinity sampling at later dates in 2020, 2021, and 2022 was not conducted because of COVID-19 restrictions and because of challenges in boat ramp access due to declining Salton Sea elevations. Additional salinity sampling is planned for 2023.

Figure 23. SSAM model-predicted water surface elevation and observed elevation (NAVD88 datum).

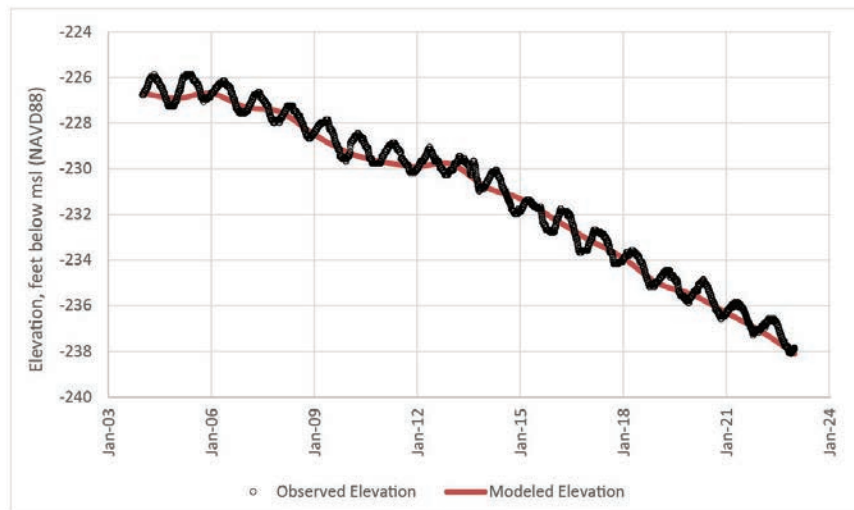
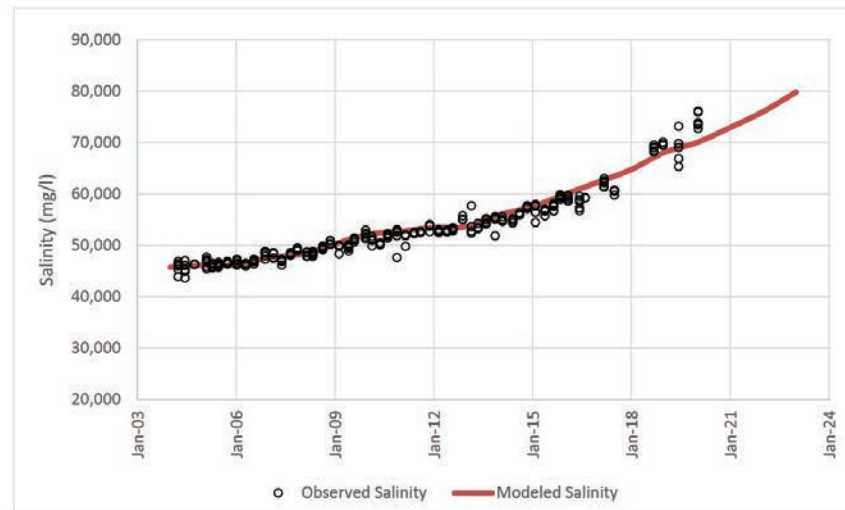


Figure 24. SSAM model-predicted salinity and observed salinity (mg/l).





Appendix B. Funding Status

Table 5. Funding Available for the Salton Sea Management Program (in millions)

Agency and Source	Authority	Authorized for Appropriation	Appropriated/ Committed	Expended as of 9/30/2022	Available for Additional Commitments	Use
DWR - Prop 50^a	WC - 79567	\$19.3	\$19.2	\$19.20	\$0.10	2003-2007 Programmatic EIR/EIS and related studies and planning activities (completed).
DWR via WCB - Prop 50	WC - 79568	\$8.75	\$8.75	\$0.0	\$0.0	\$8.75M of \$14M allocated/reserved specifically for the Salton Sea for Species Conservation Habitat (SCH) construction.
DWR & IID via WCB - Prop 50	WC - 79565	\$4.8	\$4.8	\$4.3	\$0.0	\$1M to DWR 2008 Salton Sea planning \$3.3M allocated to IID for construction of power lines to SCH project (completed) \$0.5M of \$14M allocated to DWR and reserved for SCH construction.
DWR via WCB - Prop 12	5096(a)(7)	\$4.75	\$4.75	\$0.0	\$0.0	\$4.75M allocated/reserved for SCH.
DWR via CDFW - Prop 84	WC - 75050(b)(3)	\$44.1	\$39.4	\$18.2	\$4.7	Since 2008, SCH planning, design, and staffing (\$14.5M), plus \$21M allocated/reserved for SCH construction, \$900K for construction management, and \$3M for Financial Assistance Program projects including Red Hill Bay, Seawater Marine Habitat Pilot, and Torres-Martinez Wetlands.

Table 5. Funding Available for the Salton Sea Management Program (in millions) (Contd.)

Agency and Source	Authority	Authorized for Appropriation	Appropriated/ Committed	Expended as of 9/30/2022	Available for Additional Commitments	Use
DWR (State Operations) - Prop 1	WC - 79736(c)	\$20.0	\$20.0	\$17.7	\$0.0	Staffing and other design costs for SSMP projects. (Of the \$20M appropriated, \$5.5M is committed to existing Salton Sea Projects.)
DWR (Construction) - Prop 1	WC - 79736(c)	\$60.0	\$60.0	\$36.6	\$0.0	Construction of SCH projects.
CNRA - Prop 68	PRC - 80116	\$165.7	\$141.1	\$91.4	\$24.6	\$111.16M for construction of SCH projects, \$20M for Habitat Enhancement and Dust Suppression Projects. Approximately \$7-10M for staffing and administration. \$24.6M contingency funds for SCH.
DWR - General Fund	Budget Act of 2021	\$40.0	\$26.5	\$13.5	\$0.0	The 2021-22 Budget Act committed another \$220 million in near-term General Funds, including \$40 million appropriated in fiscal year 2021-22. \$100 million has been appropriated for the fiscal year 2022-23. The remaining \$80 million will be appropriated in fiscal year 2023- 24 through the annual budget act. Funding will be used for the next tranche of SSMP projects as described in Chapter 2.
DWR - General Fund	Budget Act of 2022	\$100.0	\$98.9	\$1.1	\$0.0	See note above under Budget Act of 2021
DWR - General Fund	Budget Act of 2023	\$80.0	\$0.0	\$0.0	\$0.0	Not Yet Appropriated
City of Calexico^d - General Fund	Budget Act of 2020	\$18.0	\$18.0	\$0.0	\$0.0	\$18M to implement New River Improvement Project.
City of Calexico - Prop 68	PRC- 80110(a)(1)	\$10.0	\$10.0	\$0.0	\$0.0	\$10M to implement New River Improvement Project.
City of Calexico – General funds (SWRCB)	Grant	\$19	\$19	\$0.0	\$0.0	\$19M to implement New River Improvement Project.
Salton Sea Authority^b - Prop 68	PRC- 80110(a)	\$19.25	\$18.95	\$0.3	\$0.0	\$19.25M to implement North Lake Pilot Demonstration Project.

Table 5. Funding Available for the Salton Sea Management Program (in millions) (Contd.)

Agency and Source	Authority	Authorized for Appropriation	Appropriated/ Committed	Expended as of 9/30/2022	Available for Additional Commitments	Use
Revive the Salton Sea Fund	R&T - 18736	\$0.2	\$0.0	\$0.0	\$0.2	Tax Check Off Box - \$191K balance per State Controller's Office 6/30/2021 Report.
General Fund/ Reimbursements	Budget Act	\$0.425/\$0.316 annually	\$0.425/\$0.316 annually	\$0.425/\$0.316 annually	N/A	CDFW receives \$425k for positions supporting the Salton Sea annually. CNRA receives \$166K General Fund and \$150K reimbursement (via DWR) annually to support the Asst. Secretary for Salton Sea Policy position.
CDFW Water Agency Contribution (Salton Sea Restoration Fund)	2003 QSA Agreements	\$68.5 ^c	\$18.3	\$17.9	\$50.2 ^c	Annual surveys to monitor bird and fish populations at the Sea, including state and federal endangered species, staff development of various implementation and monitoring plans, issuance of Section 1600 permits, CEQA review, QSA Implementation Team staffing, etc.
State Total		\$682.4	\$507.7	\$220.2	\$79.8	
Federal						
	Bureau of Reclamation	\$1.6	\$1.6	\$0.6	\$0.0	Planning activities include preparing a Watershed Plan and implementation of dust suppression projects.
Federal Total		\$1.6	\$1.6	\$0.6	\$0.0	
Overall Total		\$684.0	\$509.3	\$220.8	\$79.8	

EIR/EIS = Environmental Impact Report/Environmental Impact Statement, NRCS = National Resources Conservation Service, QSA = Quantification Settlement Agreement, SSMP = Salton Sea Management Program

Footnotes:

- Bond Funds provided reflect the bond allocations available after statewide bond costs and outyear amounts already committed to by the Legislature. Statewide bond costs are authorized "off the top" in each bond act for things like the State Treasurer's Cost of issuing the bonds, Department of Finance's Costs of auditing bond expenditures, etc. Exact amounts are published on the CNRA bond accountability website.
- The Salton Sea Authority is a Joint Powers Authority (JPA) of local stakeholder groups including the Torres Martinez Desert Cahuilla tribe, two water agencies, and two county governments.
- While a total of \$68.5 million will be ultimately be available, \$42 million in payments must be collected between now and 2047 to support any expenditures from the fund. Expenditures are monitored to ensure expenses do not exceed available cash.
- The New River Improvement Project cost increased compared to the original cost estimate from \$28M to \$41.6M. This does not include the administration and engineering support costs. The total project cost is approximately \$47M.

Prepared for:



State Water Resources Control Board
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